# WESTERN EUROPEAN SOFTWARE AND SERVICES MARKET

## 1991 - 1996

## BANKING AND FINANCE SECTOR

INPUT

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# WESTERN EUROPEAN SOFTWARE AND SERVICES MARKET

## 1991-1996

## Banking and Finance Sector

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Market Analysis Programme - Europe

Western European Software and Services Market,
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## Abstract

This study analyses the computer software and services market in the banking and finance sector for Western Europe and its growth potential over the period 1991-1996.

INPUT defines the banking and finance sector as covering the banking market and the securities market. The banking market encompasses reatil, wholesale and international banking. The securities market comprises equities, bonds and other forms of securites exchanges.

This study covers all of the eight delivery modes of software and services, as defined by INPUT. It reviews all categories of third-party vendors selling to the banking and finance sector, including software and services organisations owned by groups of financial institutions, such as co-operative processing centres for savings and co-operative banks.

The following key issues are discussed: the effect of the recession on global and European banking, the pause in IS expenditure plans caused by it, the requirement for banks to redesign their prime databases to customer name structures, and to launch new competitive financial services to corporate and private customers. The report considers the major restructuring of European banking and finance markets prior to 1993 and the likely repercussions in the European software and services market. Particular attention is paid to the role of Software Application products as a prime delivery mode in this sector.

The study identifies leading vendors in the overall Western European banking and finance market, in the two subsectors of banking and securities and by major Western European country. Profiles of five vendors supplying software systems to the banking and finance sector are included to illustrate different vendor strategies as a function of vendor background and country market.

Challenges for the 1990s to vendors in the banking and finance sector are identified. In addition, recommendations are made to vendors active in this market.

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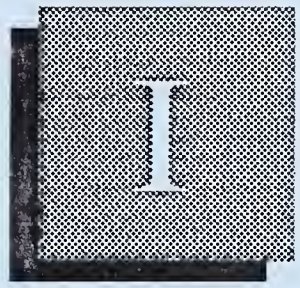

# Introduction

# I Introduction

## A Objectives

This report is produced as part of INPUT's Market Analysis Programme - Europe.

INPUT analyses the Western European software and services market by three main parameters:

- Delivery mode
- Country
- Industry sector.

In 1991, a number of key vertical industry sectors were specifically researched by INPUT. This document has been produced to report on the Banking and Finance Industry sector.

The objectives of this study are to:

- Create a clear picture of the current structure of the Western European banking & finance market and the related software and services sectors
- Understand the major forces that are affecting this sector, in particular the effects of:
  - Recession
  - Downsizing
  - Outsourcing of software services/solutions.
- Identify the major actions being taken by vendors as a result of current pressures and the resulting changes to the competitive environment over the next few years
- Estimate the size and structure of the software and services market for the Western European banking and finance sector and its growth potential to 1996
- Research the current attitudes of vendors and end users in the banking and finance sector towards application software products and their maintenance
- Identify the major differences in software and services supply to the different national banking and finance markets within Europe and how these might change under the impact of current conditions
- Recommend possible strategies for vendors in the banking and finance sector for the 1990s and highlight new opportunity markets.


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## B
## Industry Structure

In the 1980's the banking and finance market was made up of a number of discrete services supplied by specialist financial institutions. In general, retail banking was separate from house loan financing, which was separate from merchant banking and international banking. Only the larger retail banks might have been involved in the majority of these different financial services.

In nearly all European countries, the securities market was completely separate from the banking sector. Specialist securities houses offered broking and investment services in equities, bonds and other forms of securities. The main exception has been Germany, where private banks have been the only financial institutions allowed to handle securities trading.

By 1990, the picture had started to change radically. European Commission deregulation is causing the boundaries between these traditionally separate financial activities to blur. Retail banks are moving into insurance, equity investment services and home loans. House-financing institutions are moving into retail banking, as are insurance institutions and even retail shopping chains.

Today it is not practical to try to analyse the Western European banking and finance market by different types of financial institution, only by their activities and the type of software and services these activities demand. Because the activities of securities trading and their associated software and services are so different from banking activitity, this report breaks the Western European banking and finance market into two subsectors:

- Banking market
- Securities market.

## C
## Scope

This study reviews the software and services market for the banking and securities sector of Western Europe, for the period 1991 to 1996.

The study also covers any software and services demand generated by the insurance and retail sectors in the area of banking and securities services. However, it does not deal with the software and services demand for insurance services or retail shopping, which are covered by INPUT in separate vertical market reports in the 1991 Market Analysis Programme - Europe. This study has included EFTPoS links between retail outlets and banks because such links are seen as part of banking, not retail.


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The report covers both independent software vendors and equipment vendors selling software and services to the banking and finance sector. A number of key independent vendors are totally or partially owned by financial institutions. In forecasting the size of the Western European banking and finance market, INPUT includes only end-user revenues gained by third-party vendors and excludes revenues gained from parent organisations that can be defined as captive revenues.

INPUT defines captive revenues as that gained by a vendor from a parent organisation that owns more than 50% of the vendor. In the area of banking and finance, the definition of what is and what is not captive revenue is not easily determined in all cases.

For example, many French banks in the late 1960s and early 1970s set up their internal IS departments as separate companies. These are now some of France's leading independent vendors.

There is also a tendency for the parent bank to go for open tender and not to award contacts to its daughter software and services company automatically. This pattern is making a clear definition of what is and what is not captive revenue difficult. The grey area between captive and non-captive revenue in the banking and finance market is likely to become greyer as the 1990s proceed.

In Germany and Scandinavia, there are many joint or co-operatively owned processing centres for savings, co-operative and retail banks. These centres supply not only central processing services, but also IS consultancy, software products, custom software development and network services. Some supply these services only to their share-holdes; others sell also to third-party financial institutions. Similarly in other European countries, there are credit and debit card processing centres owned by groups of retail banks, as well as jointly owned inter-bank clearing centres.

Since no individual bank owns a majority of the shares in these closed user group (CUG) processing centres, INPUT does not define these centre revenues as captive and therefore includes the revenues in the market sizing and forecasts.

Exhibit I-1 details the structure of the information services industry as defined by INPUT. It also illustrates the eight delivery modes covered by this study of the banking and finance sector.

Geographically, the study divides Western Europe into the following main countries and regions:

- Germany
- France
- U.K.
- Italy
- Spain
- Benelux
- Scandinavia
- Rest of Europe.

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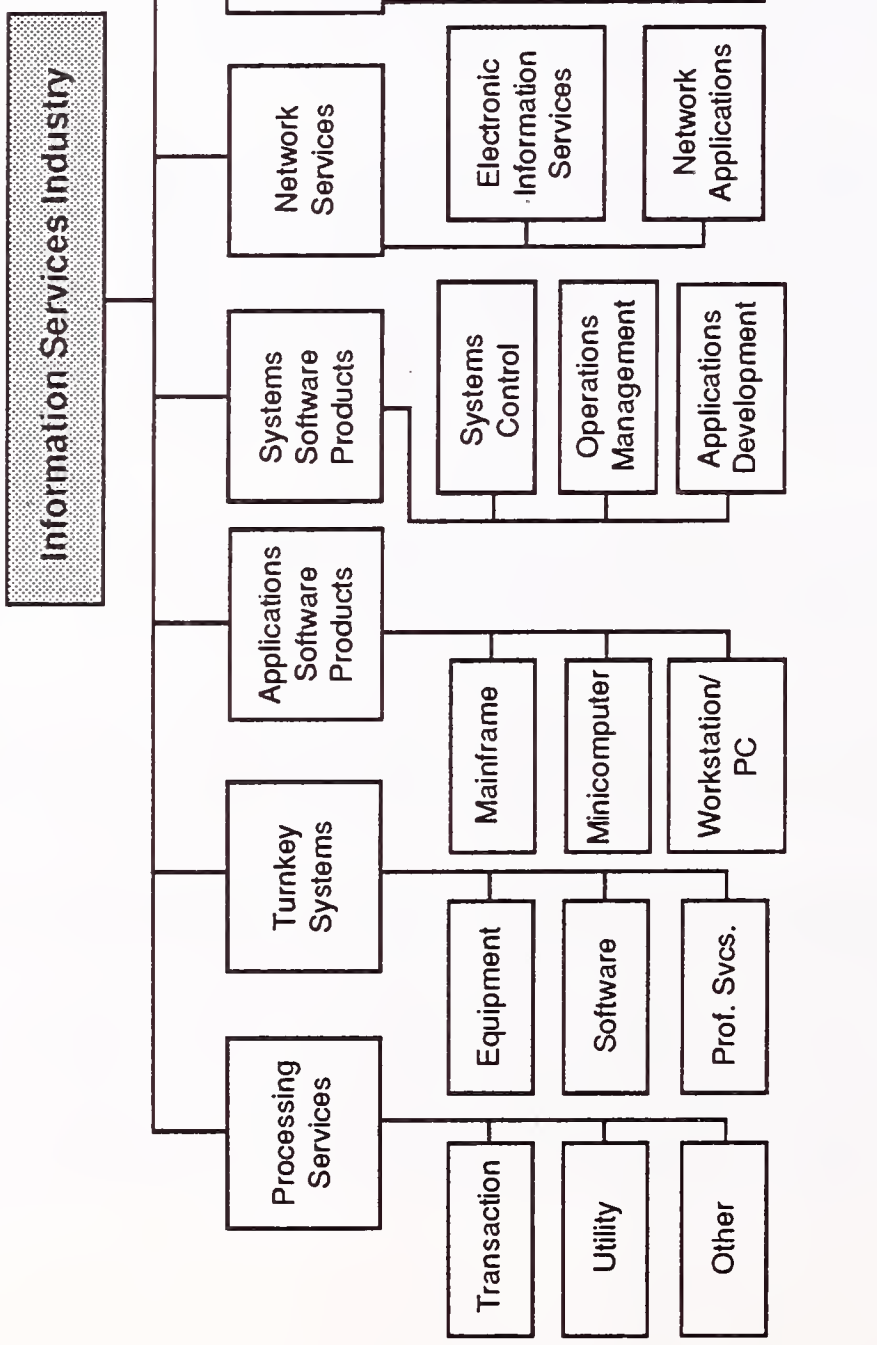
## Exhibit I-1

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## D
## Methodology

The European banking and finance market is large and complex. Many vendors have specialised in specific niche areas and country markets.

To obtain an in-depth appreciation of the structure, issues and opportunities, INPUT carried out the following research programme:

- Twenty in-depth interviews using the vendor questionnaire in Appendix A
- An additional 21 informal vendor interviews that concentrated on specific niche products, services and issues.

This tiered approach with vendors has allowed INPUT to interview an acceptable cross-section of both vendors offering a wide range of products and services for the sector and vendors specialising in specific market niches.

Exhibit I-2 shows the country breakdown of these 41 vendor interviews.

**Exhibit I-2**

**Analysis of Vendor Research**

| Country of Area | Number of Interviews |
|---|---|
| France | 8 |
| Germany | 3 |
| Italy | 8 |
| Spain | 7 |
| U.K. | 10 |
| Other countries | 5 |
| **TOTAL** | **41** |

As stated in the previous section, market forecasts are based on noncaptive end-user expenditures. These are defined by INPUT as expenditures made externally by any organisation with a third-party vendor, rather than made within the organisation itself.

Inflation effects are included in historical and future growth rates of market size estimates. Estimates of inflation rates are given in Section G in your Volume I binder.


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## E
## Report Contents

The report is organised into five chapters and one appendix as follows:

- Chapter II is an Executive Overview of the complete report. It is designed for the individual who wants to quickly identify the salient points of the report without reading it in its entirety.

- Chapter III reviews the dynamics of the banking and finance end-user market, and forecasts the overall Western European software and Services market for the whole sector and of the banking and securities subsectors, giving the breakdown of delivery mode for the period 1991 to 1996.

- Chapter IV forecasts the size of the Western European banking & finance software and services sector for the period 1991 to 1996 and analyses the sector by major geographic region.

- Chapter V includes six vendor profiles chosen to illustrate different vendor strategies with particular reference to the Application Software Product delivery mode.

- Appendix A gives the detailed forecast reconciliation between this and our previous report in 1990.

- Appendix B includes the set of INPUT Definitions of market services and sectors.

- Appendix C contains the Economic Assumptions used in INPUT's forecasts.

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# Executive Overview

# II Executive Overview

The purpose of this chapter is to act as a summary of the whole report. It provides commentary on INPUT's findings and recommendations for further action on the part of our client base.

## A
## The Banking Sector in Crisis

Western Europe has also felt the crisis currently being experienced by the banking sector worldwide:

- International banks are merging to improve their joint capabilities to survive the serious market conditions engendered by a recession which has proved longer and deeper than originally predicted. The merger of Manufacturers Hanover and Chemical Bank is the most notable case.

- Banks are going into administration and receivership. Two well-publicised examples:

  - The merchant banking arm of the British & Commonwealth Group in the U.K.

  - The Bank of Credit and Commerce International (BCCI) which has its headquarters in Luxembourg but is essentially an international bank,

- The major banks in Europe, such as the National Westminster in the U.K., are continuing to report lower profits and/or difficult trading conditions.

Simultaneously a number of earlier industry initiatives are still being implemented, particularly in countries such as Italy and Spain where the banks are striving to update their methods of doing business and streamlining their organisations in order to meet the challenges posed by the Single European market of 1993.

This is causing a situation of conflict to exist:

- One the one hand, banks are putting in place new systems to handle new types of business and even undergoing further diversification into insurance, securities and other trading markets,

- On the other hand, some banks are instituting serious reviews of their businesses in all aspects and at all levels. This is leading to calls for them to return to their core activities and for a pause on capital spending on innovative projects.


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The situation in the banks has its parallel in the Information Systems and Information Services markets. In some ways it is even more of a strategic crisis and is causing considerable restructuring as evidenced this year by the acquisition of Philips Information Systems division by Digital Equipment, the acquisition of SD-Scicon by EDS and the strengthening of Cap Gemini's share structure through the purchase of an equity stake in it by debis systemhaus, the Daimler Benz group information services company.

Exhibit II-1 lists some of these major issues currently affecting banking and securities houses and the systems intended for their use.

**Exhibit II-1**

| KEY ISSUES AND TRENDS IN THE WESTERN EUROPEAN BANKING AND FINANCE SECTOR |
|---|
| · The World Banking Crisis |
| · Retrenchment vs. Diversification |
| · IS Spending Pause |
| · Mergers in Banks |
| · Consolidation in the IS Sector |
| · Outsourcing |

In spite of current difficulties INPUT is forecasting continuing growth in the sector and especially in the use of application software products as applied in banking and finance systems:

- There is increasing user interest in the role of software products in those countries where customised software solutions were or are the norm,
- The need to provide timely software solutions within budget is leading vendors to productise offerings from the results of projects previously undertaken as customised solutions.

Exhibit II-2 gives the INPUT five-year forecast for this sector of the information services market in Western Europe:

- Both Banking and Securities segments of the market grew less fast than INPUT had forecast in our previous report. An annual growth of 13% has been anticipated for 1991, relative to the market size in 1990. This is less than the 19% we had forecast and less than the 19% we had measured between 1989 and 1990.
- INPUT forecasts that average growth for the next five years will be 15% per annum for both segments.


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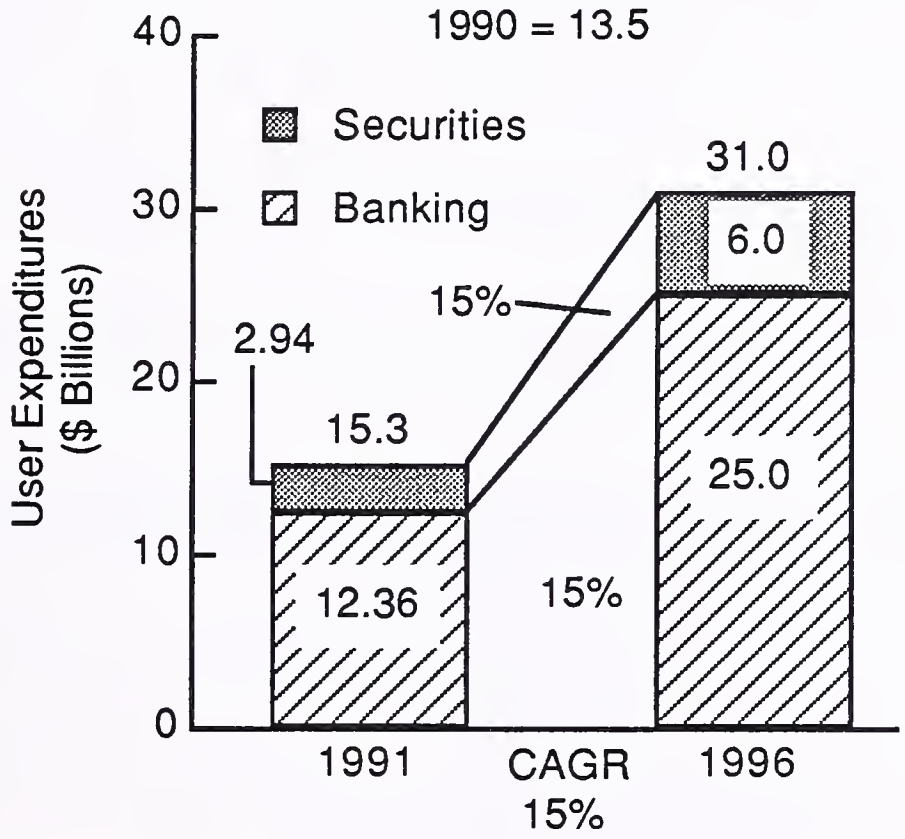
Exhibit II-2

## Banking and Finance—Western Europe Software and Services Market by Subsector, 1991-1996





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## B
## Strategic Challenges for the IS Vendors

The short- to medium-term challenges to IS vendors are functions of differing user requirements in each country market. As already noted, these are subject to the two contradictory influences of:

- Recessionary retrenchment
- Upgrading to meet competitive pressures.

Which is the stronger of these two opposing forces varies according to the maturity of the sector in each country:

- Maturer countries such as the U.K. and France are adopting the more cautious retrenchment policies
- Less mature countries such as Italy and Spain need to catch up with their maturer rivals to survive.
- Germany is in balance between the two trends, being naturally cautious about investment but needing to innovate to support its Eastern neighbours as well as the Eastern provinces now reunited with the Western.

Banking systems have historically evolved to be based on the customer account as the unit of service product. Banks know they need to re-orientate their thinking towards a total customer service approach. Many financial services institutions as well as the banks have already started to redevelop their systems with this in mind. For the major companies, this is a complex exercise involving as it does:

- Planning for flexibility in developing future services around the new customer databases,
- Running the existing systems and organisational units, until the new systems are implemented.


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This presents a major opportunity for information services vendors, but the role of software products in it and the use of application development tools to speed the process are both key issues:

- Application software products, although providing speedy implementation, can if not well selected and supported prove to lack the necessary flexibility for the a generation of systems.

- Customisation of products, if it is feasible, can increase the competitive edge furnished by the system by making it more germane to an individual organisation's requirements i.e. less of a generic commodity. Customisation however can be costly and lead to some of the problems associated with tailored solutions.

- Application development using CASE tools offers the user the potential for an optimum solution using his own in-house resources of IS professionals.

- The complexity of these decisions is inducing some users to examine another option - that of outsourcing major applications or a suitable portion of their IS infrastructures in order to be able to control costs and project time-scales.

The key activity for IS vendors at the present is to offer a flexible but well-defined set of Service Lines from which to "mix and match" the right solution in each special case.

Exhibit II-3 summarises the important challenges facing vendors as described above.

**Exhibit II-3**

IS VENDOR CHALLENGES

- Banks require customer-orientation
- Role and Weaknesses of Products
- Application Development tools and the Migration in-house of Discrete Services
- The Outsourcing Option
- The Service Line Mix


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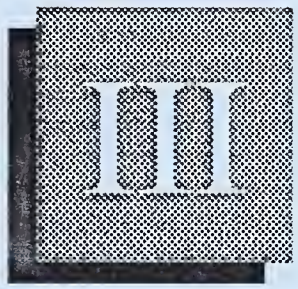

# Market Analysis and Major Issues

# III Market Analysis and Major Issues

## A
## Overview of the Issues and Trends

The market in the Banking and Finance sector has changed considerably since the production of our previous report in mid-1990, based on research undertaken in the first-half of that year. The change has not affected the requirements of the banks for new systems to support their operations. Rather it has brought about a profound change in their confidence in the stategic directions that they should be pursuing. In 1991 banks are asking themselves what areas they want to be in and tending to pause to consider the need to fall back on the core businesses they know well. Meanwhile securities houses have also met with the need to make long term strategic decisions and have tended to opt for profit taking on the systems platforms they have already developed (until things become clearer longer-term) rather than invest for the 'exciting future'. Most securities houses have their main front-office hardware systems installed and are now looking to improve the performance of these key systems before proceeding to further investment.

Despite current difficulties caused by the twin effects of recession and retrenchment, INPUT confirms its views of the strategic change in the global market for financial services which is illustrated in Exhibit III-1. Traditional boundaries between the different types of banking and trading continue to become more blurred. At the same time, the boundaries between insurance and banking are being confused by diversification of banks into becoming insurance intermediaries and by joint venturing across national boundaries between insurance companies wishing to become more pan-European in scope and local banks wishing to be able to provide a greater range of services to their existing customers. Investment management becomes the common activity between these two areas - Insurance and Banking & Finance.


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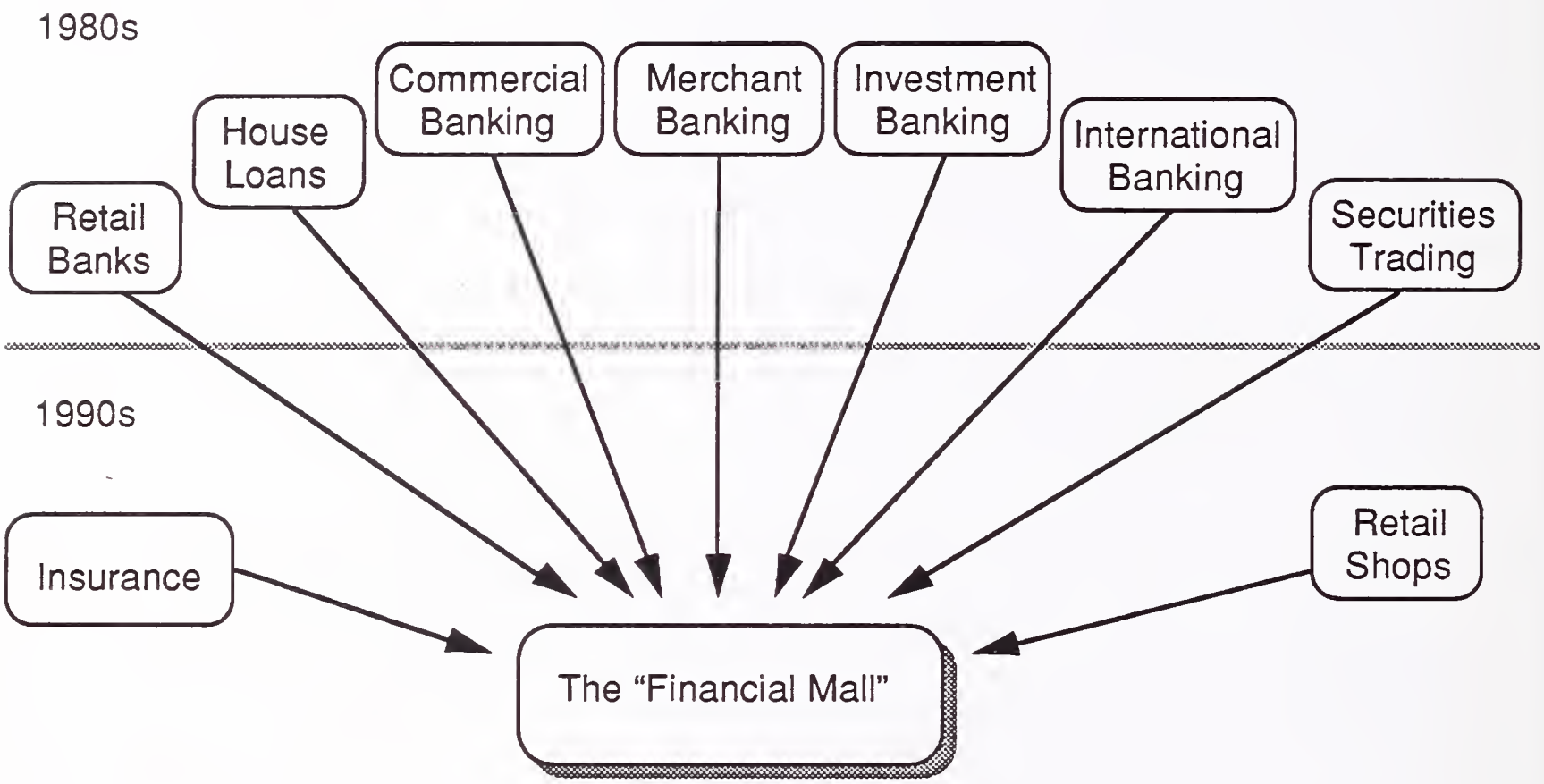
Exhibit III-1

## Banking and Finance Market Structure
## 1980s and 1990s





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## 1. Banking Market Consolidation

The number of institutions offering traditional banking and financial services continues to shrink as large banks merge to enable them to compete with their peers, and as smaller regional branch chains, often operating as subsidiaries acquired at some time in the past but still trading under an historical or previous name, are sold off to rivals or to new entrants to a local market. As a relatively undeveloped market in banking services, Spain has afforded examples of both these types of activity in 1991:

- Banco Central and Banco Hispanoamericano have announced their intention to merge making them the fourth largest in Europe in terms of assets, see Exhibit II-2.

- Banco Santander has sold two of its subsidiary chains to Credit Lyonnais.

**Exhibit III-2**

**Top European Banks by Assets - 1991**

| Bank | Country |
|---|---|
| National Westminster Bank | U.K |
| Barclays Bank | U.K. |
| Lloyds Bank | U.K. |
| Banco Central Hispanoamericano | Spain |
| Banco Bilbao Vizcaya | Spain |
| Midland Bank | U.K. |
| Crédit Agricole | France |
| Banque Nationale de Paris | France |
| Crédit Lyonnais | France |
| Deutsche Bank | West Germany |

Banks have set up joint cross-border ventures to allow them entry to other national markets without the expense of setting up branch networks. Banco Santander again has set up such an alliance with the Royal Bank of Scotland, and jointly they plan to implement an on-line inter-bank network system, called IBOS, to allow customers of either bank to transfer funds from any branch in either bank to any branch in the other bank.

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## 2. Securities Markets

The securities market during 1991 has lived up to its reputation for excitement. Two major trends have affected it:

- The London market has started to climb out of the trough into which it had fallen in the late 1980s, with steady growth in its indices registered throughout most of the year. In this is has exhibited the propensity of stock markets to anticipate the end of a recessionary period by a number of months, typically nine or more;

- Other European stock markets have not shown such bullish symptoms, illustrating the lesser severity of the recession in other countries and the suspicions that the major continental European countries may not have yet bottomed out of their current recessionary cycles.

The divergence of interests between London's ISE (International Stock Exchange) and the other major stock exchanges in Western Europe has contributed to the shelving of the EUROQUOTE (at one time calle PIPE) project for which GEIS had been the favoured supplier. This project to build a VSAT (Very Small Aperture Terminal) network to connect a number of European Stock Exchanges so that they might be able to act as one European exchange, has run aground for a number of reasons.

- Further work needs to be done to harmonise the systems and procedures in use across the different exchanges,

- A business case for implementing the project via VSAT technology needed to be made. Other solutions based on earlier ground-based technologies would appear to be more cost-effective,

- The City of London and the large German banks are not prepared at this juncture to fund the investment.

Projects to further automate systems in the individual major European exchanges have proceeded during the year, but London Taurus project is still running behind schedule. Latest estimates for going live with this project to "dematerialise" the settlement and registry of stock and equity shares put the earliest date as a start-up in May 1992.

All told 1991 promises to be the year when all the players in the financial services arena asked themselves where they were going. This pause to take stock has obviously had its impacts on the software and services suppliers serving the marketplace. Exhibit III-3 summarises the key points un-earthed by INPUT's ongoing research.


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**Exhibit III-3**

**Impact of Recession and Restructuring on the Information Services Industry**

- Check to Capital Spending
- Concentration on Core Businesses
- Mergers among Banks and IS vendors
- Failures among Banks and Trading Companies
- Search for Flexible, Pre-Built Solutions
- Repatriation and Outsourcing

## 3. Overall Market Forcast

The Banking and Finance sector of the Software and Services market in Western Europe has maintained its 20% share of this overall market during 1991, by growing if anything a little faster than the market average. This rate of growth has been shown to be continuing and is forecast to result in the sector growing from $15,300 in 1991 to $17,700 by 1992, having grown from a 1990 value of $13,500.

Exhibit III-4 sets this vertical industry sector in the context of the other vertical sectors in terms of this short term growth. The five-year forecast figures for the Banking and Finance sector alone are shown in the chart in Exhibit III-5, where both subsectors are seen to be growing at the same rate of 15%, ensuring that the sector value has doubled by 1996. This market forecast incorporates significant reductions in the growth rates given in our previous report published in mid-1990. The securities subsector has suffered most from INPUT donward revision of growth rates, losing 5 percentage points to the banking subsector's 3 points. The reconciliation of these two forecasts is contained in Appendix B to this report.

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## Exhibit III-4

### Software and Services Market by Industry Sector
### Western Europe, 1991 and 1992

| Industrial Sector | 1991 Market Size ($ Millions) | 91/2 Percent of Total | 1992 Growth (percent) | Market ($ Millions) |
|---|---|---|---|---|
| Manufacturing | | | | |
| - Discrete | 15,700 | 20.5 | 16 | 18,200 |
| - Process | 6,730 | 8.8 | 17 | 7,870 |
| Distribution (Retail and Wholesale) | 6,500 | 8.5 | 13 | 7,350 |
| Transportation | 3,520 | 4.6 | 14 | 4,010 |
| Utilities | 3,210 | 4.2 | 16 | 3,720 |
| Banking and Finance | 15,300 | 20.0 | 16 | 17,700 |
| Insurance | 6,350 | 8.3 | 15 | 7,300 |
| Government | | | | |
| - National | 5,130 | 6.7 | 14 | 5,850 |
| - Local | 5,430 | 7.1 | 13 | 6,140 |
| Services | 5,890 | 7.7 | 13 | 6,660 |
| Others | 2,750 | 3.6 | 14 | 3,140 |
| **Total** | **76,500** | **100.0** | **15** | **87,900** |


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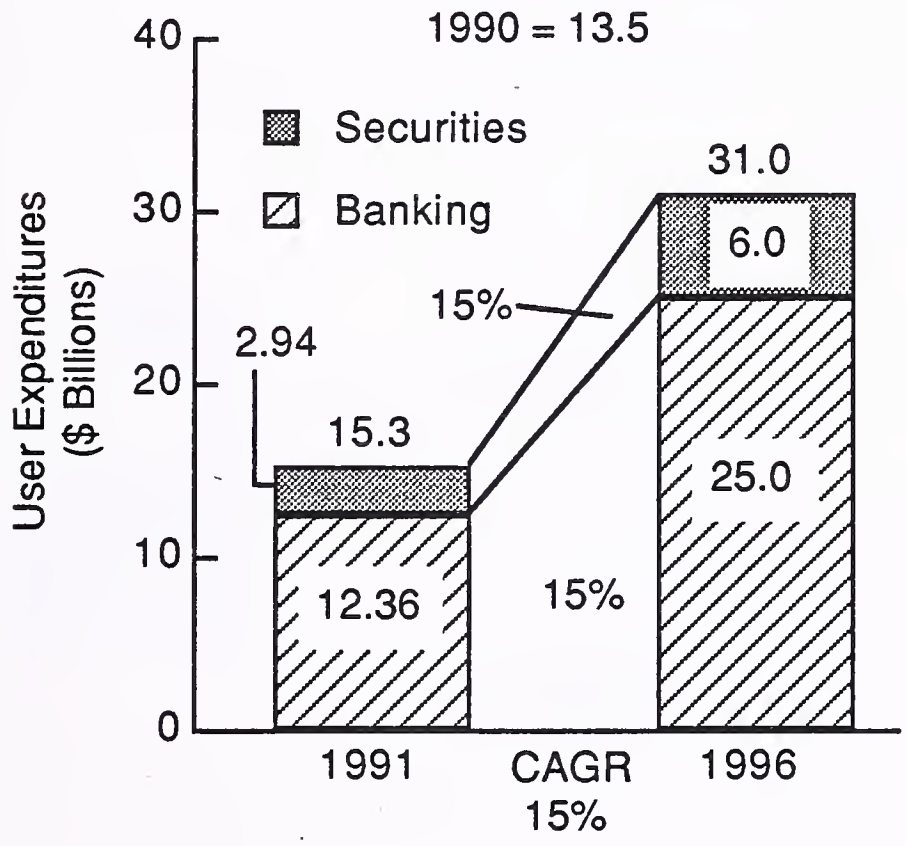
Exhibit III-5

## Banking and Finance—Western Europe Software and Services Market by Subsector, 1991-1996





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The market retains its consolidated nature first noted by INPUT in 1990, and illustrated again in Exhibit III-6. This year, however, the market share of the leading vendors is estimated to have fallen as growth projected has slowed, and "younger" providers of more cost-effective solutions have grown faster than the sector average speed. In 1991 INPUT has measured the top 80 vendors as accounting for 60% of the sector.


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Exhibit III-6

## Banking and Finance
## Leading Vendor Segments, 1991

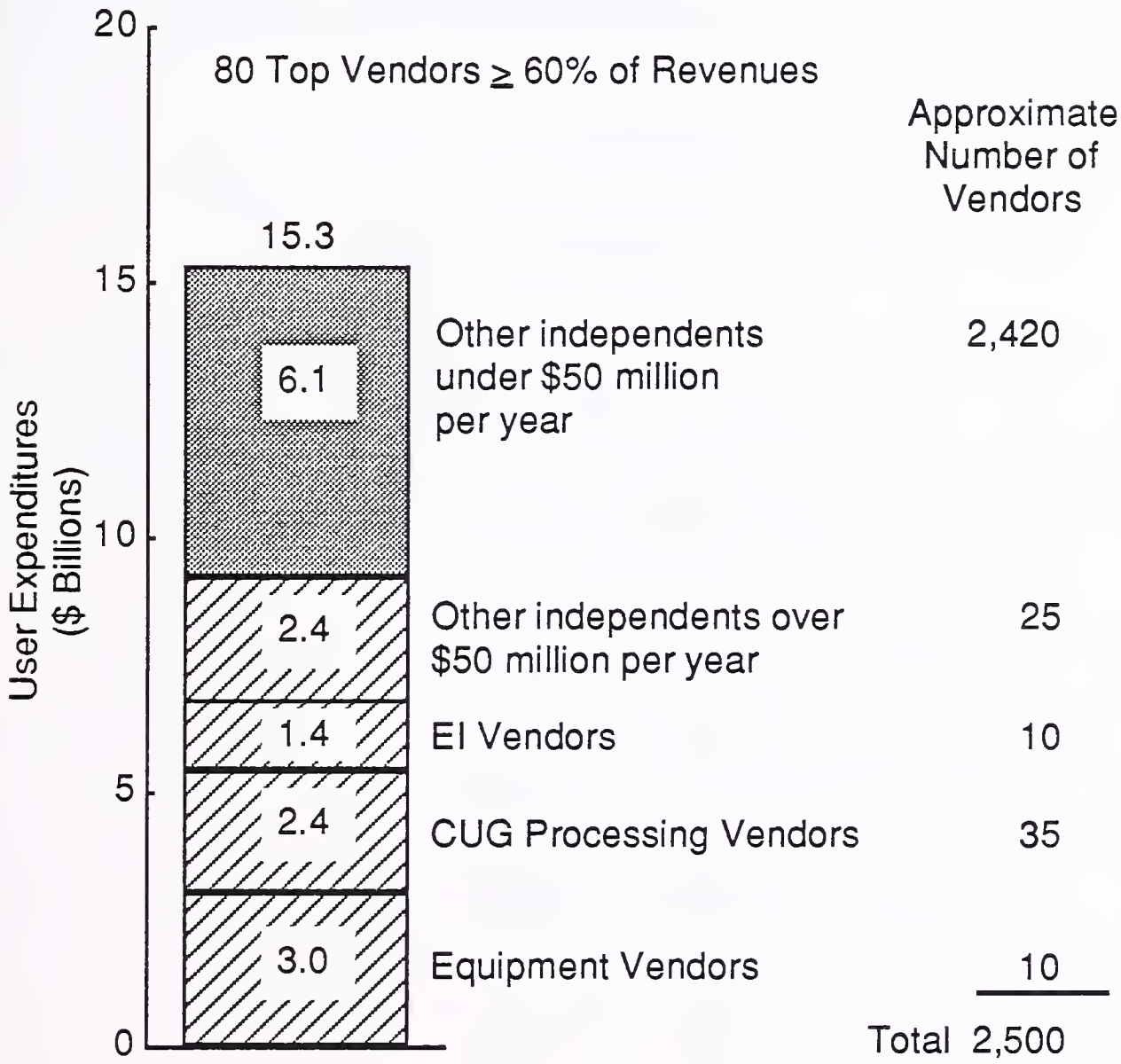



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Exhibit III-7 tabulates the market shares of the top 10 of these vendors who together account for a 27% share of the 1990 market. Vendors are ranked by their 1990 revenues. Where vendors have acquired other vendors since the end of December 1990 ie. sometime during 1991, the rankings have been based wherever possible on the combined revenues in the sector of the newly formed single entity. This applies to all ranking tables shown in this report. In this particular exhibit the no. 10 position is occupied by ICL on the basis of the combined ICL and Nokia Data Banking and Finance sector revenues in 1990 although these two entities were not fused until the middle of 1991. The objective of this 'retro-fitting' of rankings is to enable readers to see the rankings of the most current top organisations, those with whom they will have to contend in future.

**Exhibit III-7**

**Top Vendor Rankings and Market Shares, 1990**
**Total Banking and Finance Sector**

| Rank | Company | Market Share | Estimated Revenues ($ Millions) |
|---|---|---|---|
| 1 | IBM | 8.1 | 1,100 |
| 2 | Reuters | 4.6 | 625 |
| 3 | SNI | 3.6 | 485 |
| 4 | Cap Gemini Sogeti | 2.0 | 270 |
| 5 | Unisys | 1.9 | 260 |
| 6 | Sligos | 1.6 | 215 |
| 7 | Telekurs | 1.3 | 180 |
| 8= | Finsiel | 1.2 | 160 |
| 8= | Digital | 1.2 | 160 |
| 10 | ICL | 1.1 | 155 |
| | Others | 73.3 | 9,890 |
| | **Total** | **100.0** | **13,500** |


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## B
## Delivery Mode Analysis

Exhibit III-8 tabulates the sector market by delivery mode showing the change in the market over the previous two years, as well as the full five-year forward forecast to 1996. Average growth is forecast to pick up from the recent low of 13% between 1990 and 1991, but the range of growth rates between different delivery modes is considerable and will be explained below for each mode. Please note that Systems Operations has been split away from Processing Services and, to a limited extent, from Professional Services, the two areas in which INPUT was measuring it at the time of our previous report on this sector. In the detail charts that appear in the following section, please also note that CAGRs (Compound Annual Growth Rates) have been calculated on the more precise figures which went into Exhibit III-8 and not on the rounded figures which appear on the column/bar charts.

**Exhibit III-8**

**Banking and Finance Sector by Delivery Mode**
**Western Europe - 1991-1996**

| | Market Forecast ($ Millions) | | | |
|---|---|---|---|---|
| Subsector | 1990 | 1991 | 1991-1996 CAGR (Percent) | 1996 |
| Processing Services | 3,450 | 4,120 | 11 | 6,950 |
| Network Services | 1,800 | 1,930 | 16 | 4,050 |
| System Software | 1,745 | 2,000 | 14 | 3,850 |
| Application Software | 1,030 | 1,280 | 25 | 3,900 |
| Professional Services | 3,950 | 4,200 | 14 | 8,150 |
| Systems Integration | 445 | 520 | 19 | 1,250 |
| Systems Operations | 80 | 100 | 25 | 300 |
| Turnkey Systems | 1,000 | 1,150 | 17 | 2,550 |
| Total | 13,500 | 15,300 | 15 | 31,000 |


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## 1. Processing Services

Processing services grew much faster than usual between 1990 and 1991 - some 19% - due to recessionary pressures causing users to stay with traditional services instead of embarking on newer ventures involving new system. Secondly the growth in the numbers of Systems Integration projects in this sector meant that there was considerable scope for short-term bridging contracts until users could bring their new systems on-stream.

Over the next five years the growth will again decline - to a figure below 10% per annum at the end of the period but boosted to an average value of 11% by:

- The short-term filip to this delivery mode already described

- The increasing awareness of the closed-user group processing centres of the opportunities available in the open market.

Exhibit III-9 illustrates the growth forecast for the two subsectors, the open (growing at 13% pa) and the semi-closed (growing at 10%). Exhibit III-10 lists the top 10 vendors in the processing services segment, with their market shares.

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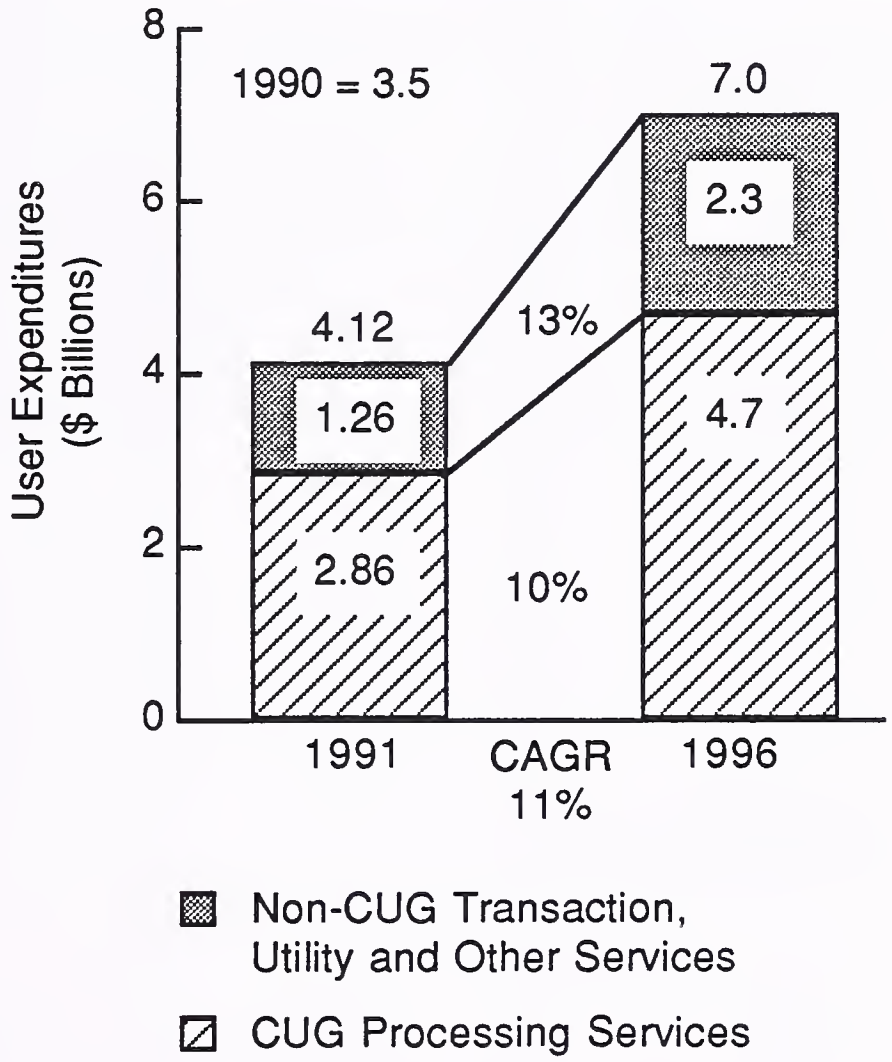
Exhibit III-9

## Processing Services by Subsector, 1991-1996

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## Exhibit III-10

## Top Vendor Rankings and Market Shares, 1990
## Processing Services

| Rank | Company | Market Share | Estimated Revenues ($ Millions) |
|---|---|---|---|
| 1 | Sligos | 3.0 | 105 |
| 2= | Finsiel | 2.9 | 100 |
| 2= | GEIS | 2.9 | 100 |
| 2= | IBM | 2.9 | 100 |
| 5 | Telekurs | 2.8 | 95 |
| 6 | Fiducia | 2.6 | 90 |
| 7 | Fellesdata | 2.5 | 87 |
| 8 | PBS | 2.5 | 85 |
| 9 | Bankens Betalingssentral | 2.3 | 80 |
| 10 | EDS/SD-Scicon | 2.0 | 68 |
| | Others | 73.6 | 2,540 |
| | **Total** | **100.0** | **3,450** |


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## 2. Network Services

This segment is dealt with in more detail in INPUT's Network Services Programme for Europe, where a whole study is devoted to its research and analysis. It comprises the smaller Network Applications sector and the larger, heavily-concentrated Electronic Information Services (EI) sector. It has overall had a very moderate growth rate over the previous 12 months due to the virtual stagnation of the EI sector in which Reuters and Dow Jones' Telerate subsidiary are the dominant players.

INPUT forecasts reasonable growth in the period to 1996 as trading markets pick up from their low points of the late 1980s. This growth - 17% overall - is fostered largely by the fast growing network applications sector in which Electronic Mail and other forms of messaging, EDI driven by the new Electronic Payments requirements being implemented by banks in various countries, and Network Management Services all act as driving forces. The principal driving force in the EI sector involves the new distribution methods represented by storage and publishing of information on CD-ROM and other forms of optical media. Exhibit III-11 gives the delivery mode forecast by submode, while Exhibit III-12 ranks the top 10 suppliers by their attibutable 1990 revenues.


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Exhibit III-11

## Network Services by Subsector, 1991-1996

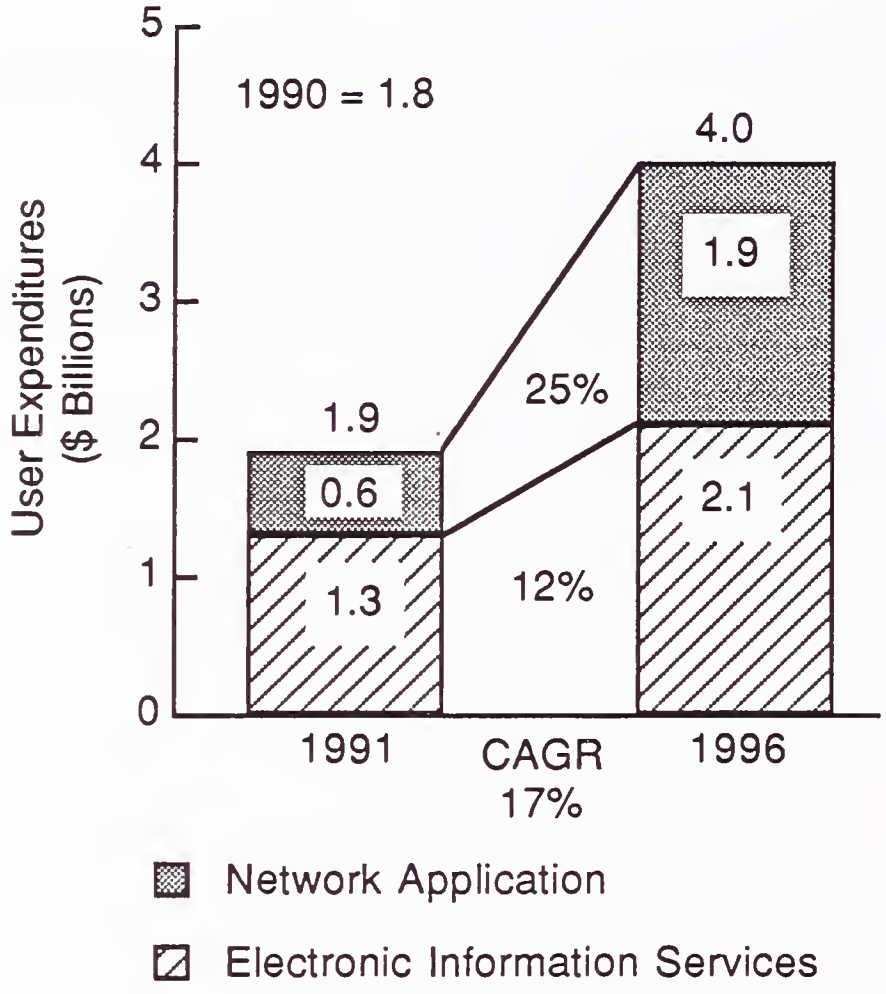



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**Exhibit III-12**

**Top Vendor Rankings and Market Shares, 1990**
**Network Services**

| Rank | Company | Market Share | Estimated Revenues ($ Millions) |
|---|---|---|---|
| 1 | Reuters | 31.1 | 560 |
| 2 | Dow Jones/ Telerate | 6.9 | 125 |
| 3 | SWIFT | 5.3 | 95 |
| 4 | Telekurs | 4.7 | 85 |
| 5 | France Telecom | 3.1 | 55 |
| 6= | GEIS | 2.2 | 40 |
| 6= | Citicorp/Quotron | 1.9 | 35 |
| 8 | GSI | 1.7 | 30 |
| 9 | Dun & Bradstreet | 1.7 | 30 |
| 10= | Sligos | 1.4 | 25 |
| 10= | ADP Financial | 1.4 | 25 |
| | Others | 38.6 | 695 |
| | **Total** | **100.0** | **1,800** |

### 3. Software Products

Exhibit III-13 contains the forecast for the Software Products market in the Banking & Finance sector. System Software is currently the larger sub-mode but due to the high growth of Application Products at a CAGR of 25% per annum, the two submodes are forecast to have a 50% market share each by 1996.

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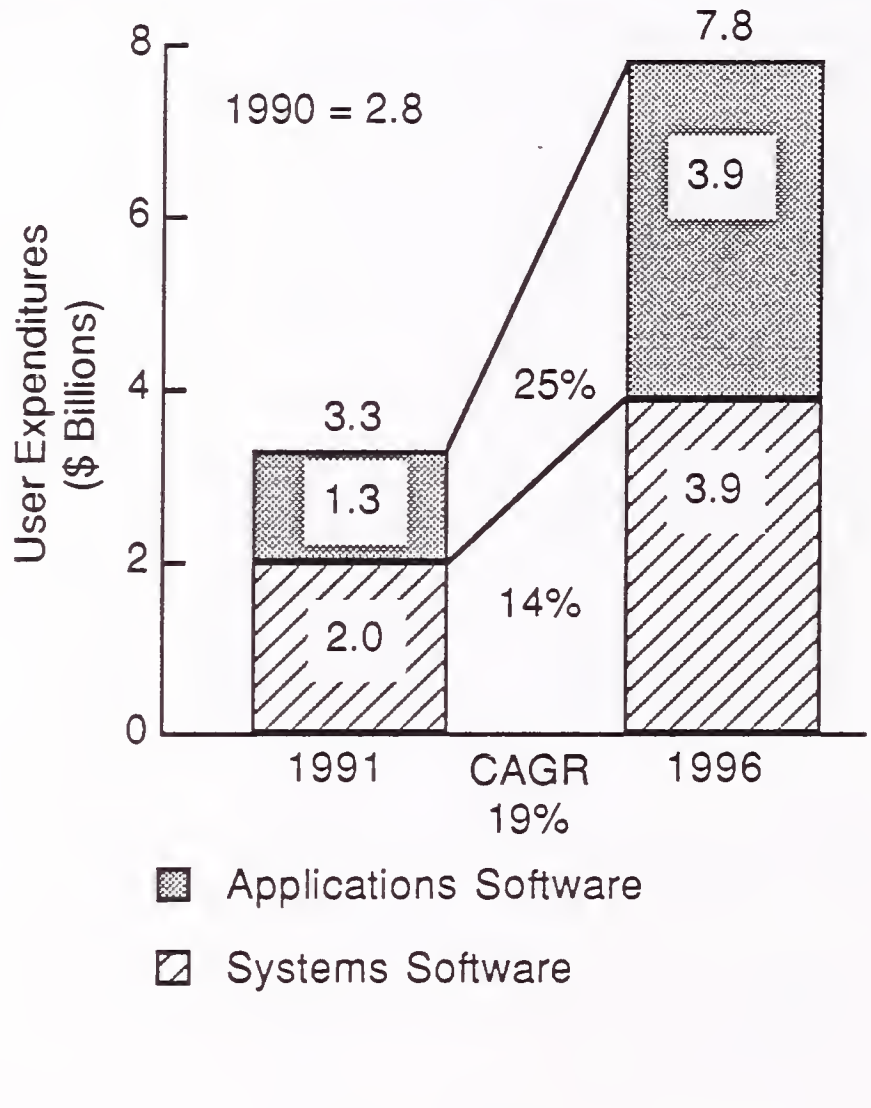
Exhibit III-13

## Software Products by Subsector, 1991-1996





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Applications Products should be the principal thrust of service suppliers wishing to increase their penetration of, particularly, the banking solutions market. The importance of choice of product and of understanding the different acceptability levels of the product approach in each country is dealt with more fully in chapter IV. In the short-to medium-term, application software products marketed under licence but modifiable to customer requirements, will be the most favoured approach for the majority of banks. The Systems Operations delivery mode remains the more favoured mode for the long term.

Exhibits III-14 and III-15 show the vendor rankings for the System Software and Application Software Products subsectors respectively.

**Exhibit III-14**

**Top Vendor Rankings and Market Shares, 1990**
**System Software Products**

| Rank | Company | Market Share | Estimated Revenues ($ Millions) |
|---|---|---|---|
| 1 | IBM | 40.1 | 700 |
| 2 | Unisys | 6.9 | 120 |
| 3 | Digital | 4.0 | 70 |
| 4 | SNI | 3.4 | 60 |
| 5 | Bull | 3.0 | 52 |
| 6 | Software AG | 2.1 | 36 |
| 7 | Computer Associates | 2.0 | 35 |
| 8 | ICL | 1.7 | 30 |
| 9 | Novell | 1.6 | 28 |
| 10 | Microsoft | 1.4 | 25 |
| | Others | 33.8 | 589 |
| | **Total** | **100.0** | **1,745** |


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## Exhibit III-15

## Top Vendor Rankings and Market Shares, 1990
## Application Software Products

| Rank | Company | Market Share | Estimated Revenues ($ Millions) |
|---|---|---|---|
| 1 | BIS | 3.5 | 36 |
| 2= | SCBF | 3.4 | 35 |
| 2= | Microsoft | 3.4 | 35 |
| 4 | Sema | 2.9 | 30 |
| 5 | Unisys | 2.7 | 28 |
| 6 | SAP | 2.4 | 25 |
| 7= | SNI | 1.9 | 20 |
| 7= | Lotus | 1.9 | 20 |
| 9 | ICL/Nokia | 1.7 | 18 |
| 10= | Borland | 1.5 | 15 |
| 10= | CA | 1.5 | 15 |
| 10= | IBM | 1.5 | 15 |
| | Others | 71.7 | 738 |
| | **Total** | **100.0** | **1,030** |


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## 4. Professional Services

Professional Services is the largest segment within the Banking and Finance sector. Although forecast to grow at 14% pa over the next five years, which is below the sector average, it will remain the largest segment in 1996 by a comfortable margin. Market pressures exerted during the 1990-1991 timeframe have borne most heavily on this segment as users have delayed new project starts and have switched their attentions more to the vehicle of a pre-built (package) solution with some degree of customisation.

Exhibit III-16 contains the five-year forecast for this delivery mode, and shows the split between the three sub-modes:

- Only Education and Training is forecast to grow above the segment average rate ie. at 17% pa. CAGR, but it is too small to increase its market share significantly.

- Custom software development is the largest sub-segment and covers:

  - Complete tailored software projects,
  - Modifications to standard software products,
  - The use of contract development staff under control of in-house project managers.


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Exhibit III-16

## Professional Services by Subsector, 1991-1996

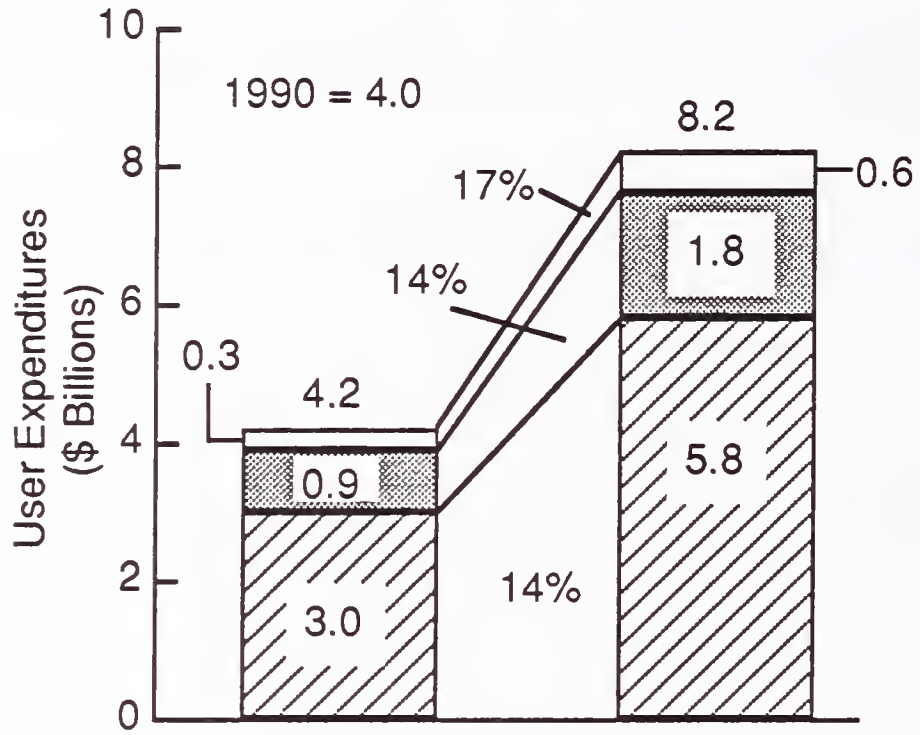



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Exhibit III-17 shows the 1990 top 10 vendor rankings for this delivery mode. As has happened with several of the other modes, the leading vendors have lost market share during the market slowdown period, as cost-concious users opt for proposals offered at lower cost rates, usually from the smaller services companies.

**Exhibit III-17**

**Top Vendor Rankings and Market Shares, 1990**
**Professional Services**

| Rank | Company | Market Share | Estimated Revenues ($ Millions) |
|---|---|---|---|
| 1 | Cap Gemini Sogeti | 4.7 | 185 |
| 2 | IBM | 4.6 | 180 |
| 3 | Sema | 2.4 | 95 |
| 4 | Unisys | 2.0 | 80 |
| 5 | Andersen | 1.8 | 70 |
| 6 | Finsiel | 1.4 | 55 |
| 7= | Olivetti | 1.3 | 50 |
| 7= | Volmac | 1.3 | 50 |
| 9= | ICL | 1.0 | 40 |
| 9= | EDS/SD-Scicon | 1.0 | 40 |
| 9= | Bull | 1.0 | 40 |
| | Others | 77.6 | 3,065 |
| | **Total** | **100.0** | **3,950** |


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## 5. Turnkey Systems

This sector is dominated by SNI (Siemens Nixdorf Informationssysteme GmbH) whose activities principally in the German, French, Swiss and U.K. markets, serving large and smaller banks with branch banking systems give it almost 40% of the market. Exhibit III-18 forecasts a steady 17% growth over the next five years as the requirement for installation and renewal of branch systems manifests itself over the period to 1996. Exhibit III-19 shows the 1990 vendor rankings with market shares. Although the 11 vendors ranked are losing market share (approximately 10% has been lost since the similar position in 1989), this segment remains the most concentrated of any delivery mode with the exception of Systems Operations.


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Exhibit III-18

## Turnkey Systems, 1991-1996

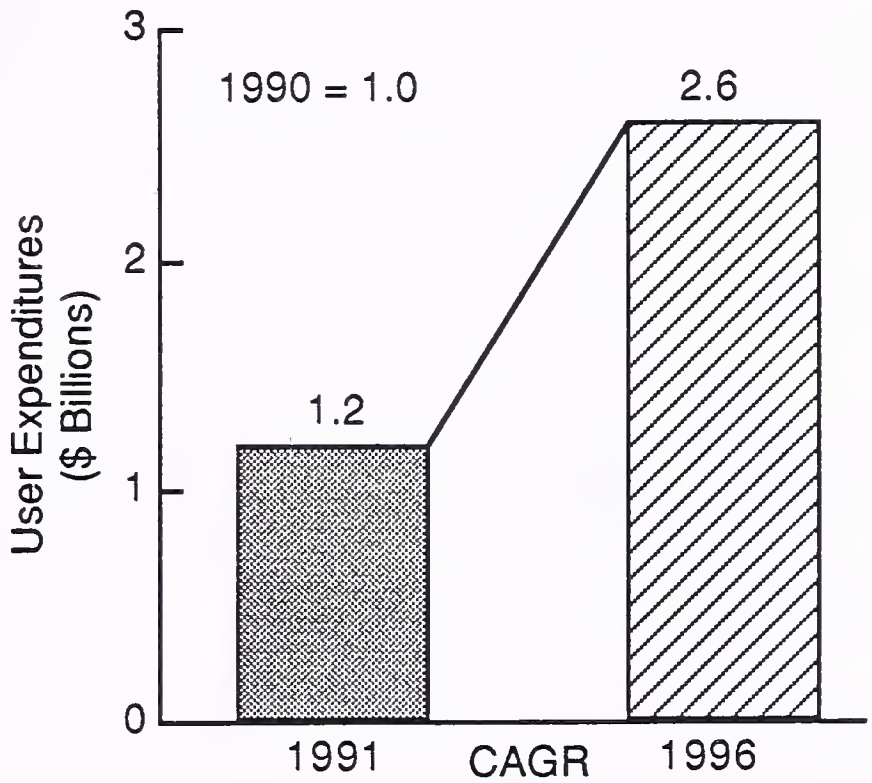



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**Exhibit III-19**

**Top Vendor Rankings and Market Shares, 1990**
**Turnkey Systems**

| Rank | Company | Market Share | Estimated Revenues ($ Millions) |
|---|---|---|---|
| 1 | SNI | 38.5 | 385 |
| 2= | Sligos | 6.0 | 60 |
| 2= | Digital | 6.0 | 60 |
| 4 | Reuters | 5.5 | 55 |
| 5 | ICL/Nokia Data | 4.0 | 40 |
| 6 | McDonnell Douglas | 2.1 | 21 |
| 7= | IBM | 2.0 | 20 |
| 7= | CGS/Hoskyns | 2.0 | 20 |
| 9 | Unisys | 1.5 | 15 |
| 10= | BIS | 1.0 | 10 |
| 10= | Olivetti | 1.0 | 10 |
| | Others | 30.4 | 304 |
| | **Total** | **100.0** | **1,000** |

## 6. Systems Integration

Systems Integration covers the larger projects in which the external contractor takes major responsibility for implementation. This delivery mode is forecast to grow at a faster rate than the sector average to reach over $1 billion by 1996, as illustrated in Exhibit III-20. Contracts will involve both major banking systems and systems for the various national stock exchanges. The pan-European stock exchange network project is currently on indefinite hold.

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Exhibit III-20

## Systems Integration, 1991-1996

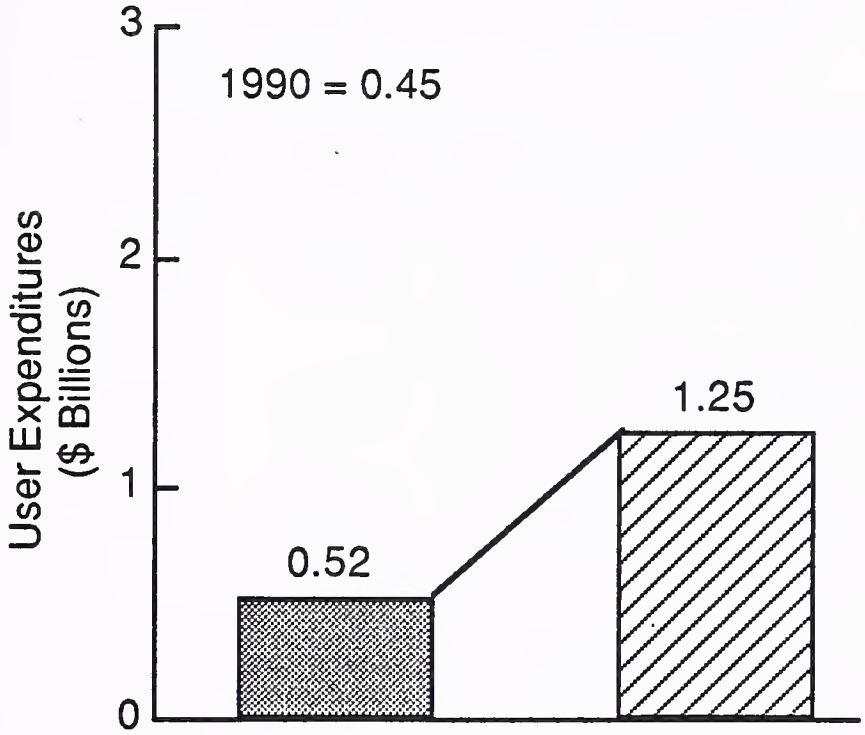



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Exhibit III-21 ranks the vendors by 1990 market shares. IBM again tops the list.

**Exhibit III-21**

**Top Vendor Rankings and Market Shares, 1990**
**Systems Integration**

| Rank | Company | Market Share | Estimated Revenues ($ Millions) |
|---|---|---|---|
| 1 | IBM | 13.5 | 60 |
| 2 | Andersen | 10.8 | 48 |
| 3 | Cap Gemini Sogeti | 5.8 | 26 |
| 4 = | EDS/SD-Scicon | 3.4 | 15 |
| 4 = | Logica | 3.4 | 15 |
| 4 = | Steria | 3.4 | 15 |
| 7 = | Sema | 3.1 | 14 |
| 7 = | SNI | 2.7 | 12 |
| 9 = | Digital | 2.2 | 10 |
| 9 = | ICL/Nokia Data | 2.2 | 10 |
| 9 = | Unisys | 2.2 | 10 |
| | Others | 47.2 | 210 |
| | **Total** | **100.0** | **445** |


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## 7. Systems Operations

The banks have been traditionally hostile to the outsourcing of their Information Systems and Services, principally on the score of loss of confidentiality and security. The current economic climate has caused them to reconsider this fundamental attitude. The increasing importance of networking and the increasing integration of networks into the information systems of banks and securities houses is leading them to consider outsourcing as a means of reducing the technical complexities of their operations as well as of reducing costs, - their all-important concern at this stage.

Exhibit III-22 contains INPUT's forecast for growth in Systems Operations through to 1996. With a CAGR of 25% this delivery mode is growing as fast as the Application Software products sector, the other joint leader in this respect.


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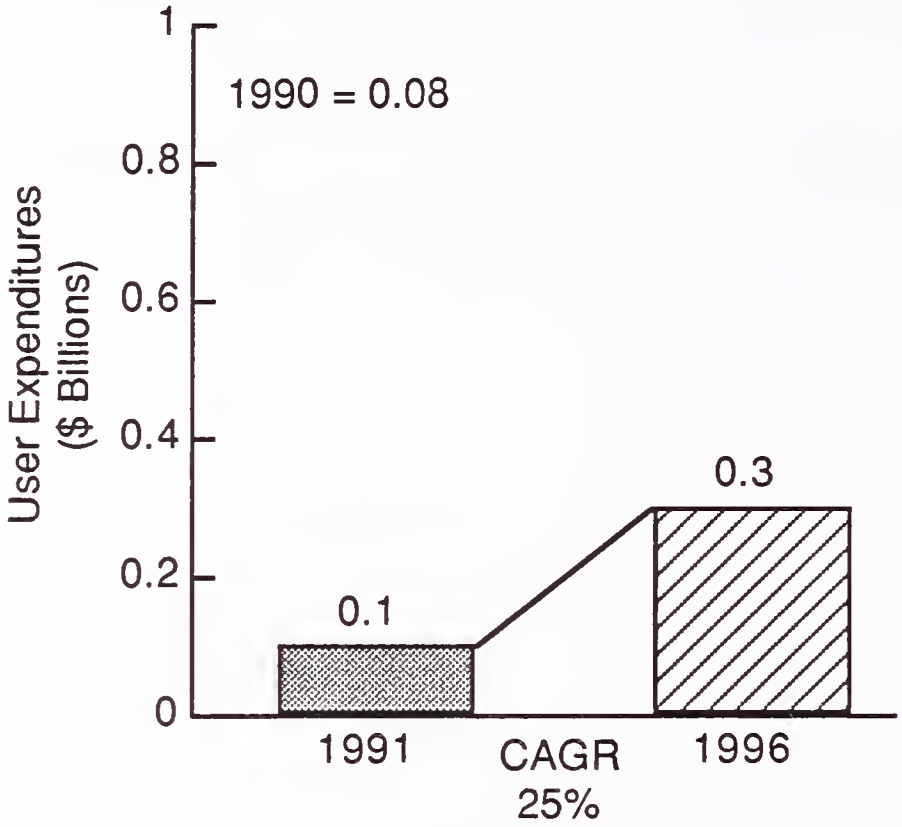
Exhibit III-22

## Systems Operations, 1991-1996





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EDS, which in 1991 acquired the SD-Scicon company, is now the nominal market leader in Systems Operations. Digital, which acquired the Financial Systems division of Data Logic in 1990, is in second place. The complete top 10 rankings for this delivery mode are shown in Exhibit III-23.

**Exhibit III-23**

**Top Vendor Rankings and Market Shares, 1990**
**Systems Operations**

| Rank | Company | Market Share | Estimated Revenues ($ Millions) |
|---|---|---|---|
| 1 | EDS/SD-Scicon | 18.8 | 15 |
| 2 | Digital | 12.5 | 10 |
| 3 | Cap Gemini Sogeti/Hoskyns | 11.3 | 9 |
| 4 | Sligos | 8.8 | 7 |
| 5 | GSI | 7.5 | 6 |
| 6 | Andersen | 6.3 | 5 |
| 7 | Sema | 3.8 | 3 |
| 8= | Finsiel | 2.5 | 2 |
| 8= | Axone | 2.5 | 2 |
| 8= | Concept | 2.5 | 2 |
| | Others | 23.8 | 19 |
| | **Total** | **100.0** | **80** |


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# Country Market Analysis and Vendor Profiles

# IV Country Market Analysis and Vendor Profiles

This chapter summarises the findings of the INPUT research in each of the five major countries visited for face-to-face research as part of our 1991 vendor research programme:

- Germany
- France
- U.K.
- Italy
- Spain.

In each section we take an individual country and detail our findings under the headings of:

- The status of banking in each country,
- The development of information systems and services in banking in each country,
- Market forecasts for the period 1991-1996.
- Top 10 vendor rankings based on 1990 revenues gained in each country in the Banking & Finance Sector.

## A Introduction

The Western European Software and Services market in this industry sector is set to grow over the next five years at a healthy 15% compound annual growth rate (CAGR), and this in spite of the current crisis in the banking industry worldwide. With the exception of Spain (among the larger Western European countries) and some of the smaller countries normally forming part of INPUT's Rest of Europe country grouping (more particularly Greece and Portugal), there is not a lot of difference in the growth rates in the individual country markets. These range from a low of 13% for the majority of the Scandinavian countries to 16% for Germany and Italy among the major countries. Spain, as we shall see, is the exception, being forecast to grow at 24% per annum over the next five years.

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Exhibit IV-1 illustrates the market size and growth of the five year major country markets, the Benelux and Scandinavian countries (shown as two separate groups) and the Rest of Europe, here including Austria, Switzerland, Greece, Portugal and Ireland. The U.K. remains the single largest market, but loses market share, especially to Germany but to a lesser extent to Italy, Spain and the Rest of Europe. Germany will have the second largest market in Western Europe by 1996 having overtaken the French market in the previous year. Spain's high growth rate is explained by the need of that country to modernise its industrial and commercial infrastructures. Spaniards see themselves as being in what they call " catch-up mode" in both banking service products and in IT systems and services generally. Much of the investment need to modernise Spain's banking systems has been made available through foreign investors buying into the indigenous banking community and increasingly into the software and services industry.

**Exhibit IV-1**

**Western European Software and Services Market - Banking and Finance Sector by Country, 1991-1996**

| | Market Forecast ($ Millions) | | | |
|---|---|---|---|---|
| Country | 1990 | 1991 | 1991-1996 CAGR (Percent) | 1996 |
| Germany | 2,900 | 3,290 | 16 | 6,800 |
| France | 3,020 | 3,430 | 14 | 6,600 |
| U.K. | 3,070 | 3,470 | 15 | 7,000 |
| Italy | 1,060 | 1,200 | 16 | 2,570 |
| Spain | 370 | 430 | 24 | 1,260 |
| Benelux | 960 | 1,080 | 15 | 2,170 |
| Scandinavia | 1,450 | 1,640 | 13 | 2,970 |
| Rest of Europe | 670 | 760 | 16 | 1,630 |
| **Total** | **13,500** | **15,300** | **15** | **31,000** |

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INPUT's definition of the Banking and Finance sector divides the sector into two parts or subsectors:

- Banks include commercial publicly-owned banks, government-owned banks and private banks. Banks may operate exclusively or simultaneously in a number of business areas:

  - Retail banking ie. banking for the public as individual consumers

  - Wholesale banking, which covers commercial loans and deposits, ie. to businesses and government organisations, as well as more specialised applications supporting international operations, investments and merchant banking

  - Trading financial instruments of all sorts including equities, bonds, stocks, options, futures, etc.

- Securities companies include stockbrokers, money brokers, stock exchanges and other market making organisations. The securities subsector trades in two areas, which overlap with the banking subsector;

  - Trading in financial instruments is the principal business

  - Investment management in which it is competitive with banks and other financial services companies, overlaps with Wholesale Banking.

INPUT's country market forecasts are provided for both these subsectors. Exhibits IV-2 and IV-3 show the segmentation of the current (1991) market across the same country groupings as used in Exhibit IV-1, for each of the two subsectors:

- Germany has the largest Banking subsector,
- U.K. has the largest Securities subsector.


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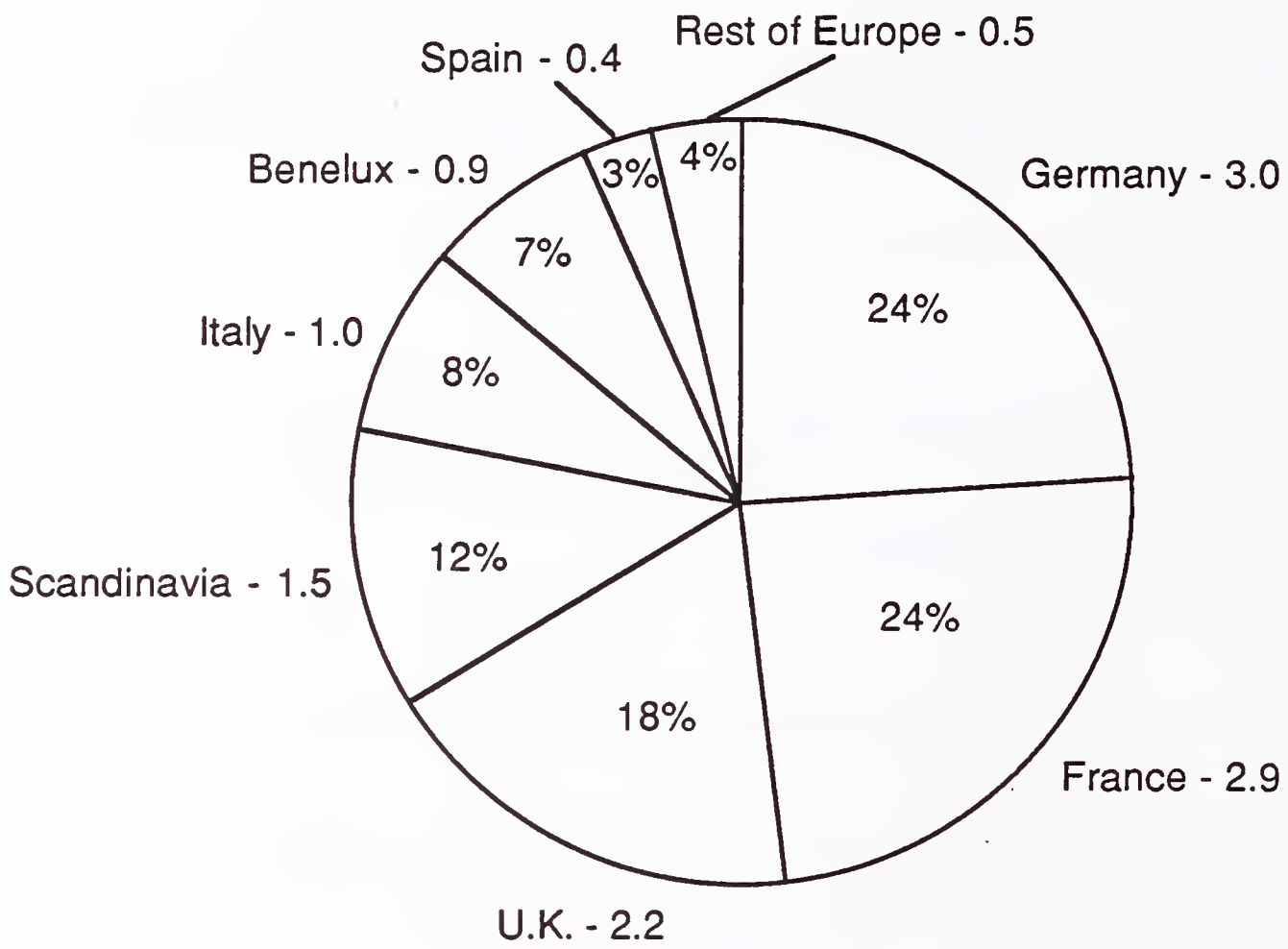
Exhibit IV-2

## Banking Subsector by Country, 1991




Total Market 1991 = $12.4 Billion


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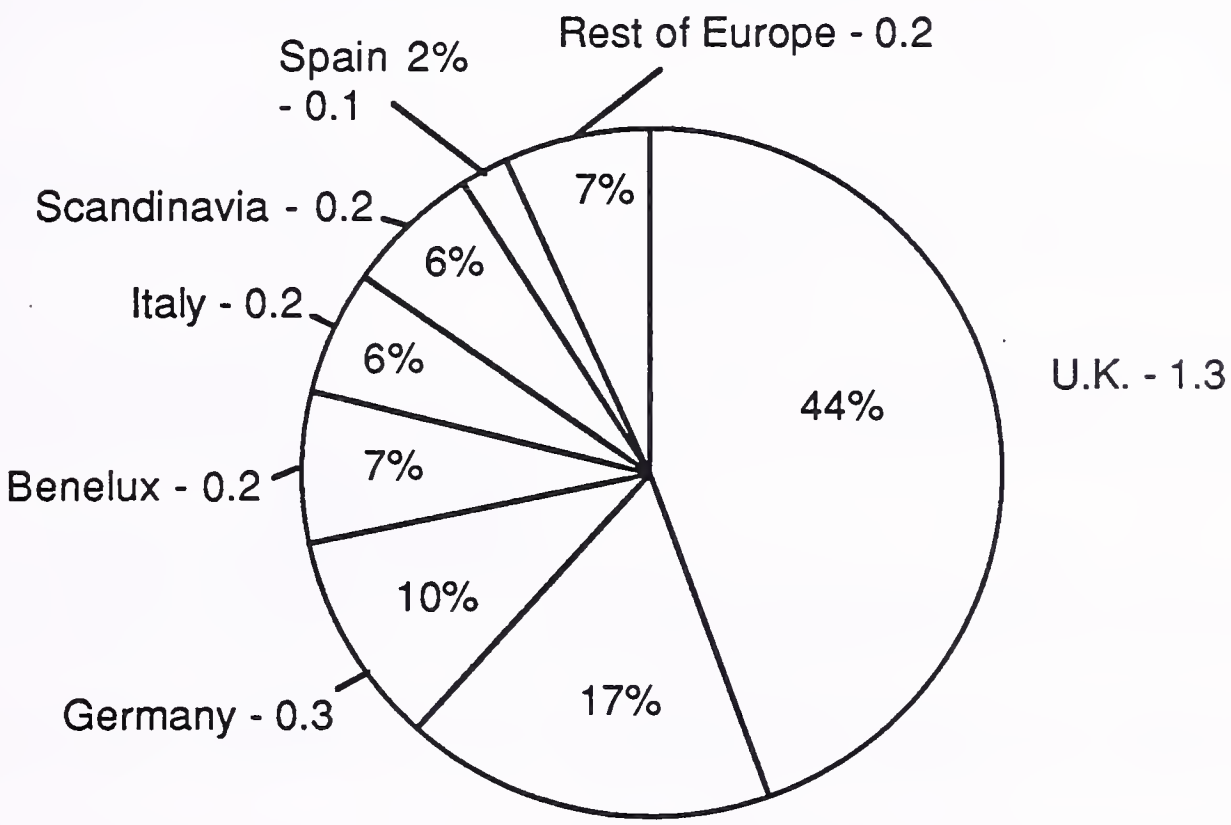
Exhibit IV-3

## Securities Subsector by Country, 1991




Total Market 1991 = $2.9 Billion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# B
# Leading Western European Country Markets

## 1. Germany

The German banking market has been impacted during 1991 by two major forces.

- Unification has caused the banks in what was West Germany to become embroiled in the indebtedness of what were the state-owned and run industries of the former East Germany.

- Competition between the big banks has increased as the government implements deregulation prior to the Single European 1993 market, with diversification into the life insurance market playing a leading part in this change.

In the provinces that formed East Germany these two factors come together as the top three banks: Deutsche, Dresdner and Commerzbank apply themselves to the task of setting up branch networks to serve the commercial and retail banking needs of the old East:

- Deutsche and Dresdner have set up joint ventures with the Kreditbank, formerly part of the state-owned Staatsbank

- Commerzbank, the number three, has started to set up a branch network from scratch and currently has over 25 branches.

All this activity is keeping the open market growing at over 14% per annum and this rate is expected to increase to an average of 16% pa over the next five years. Exhibit IV-4 illustrates the forecast market growth in terms of the two subsectors. Note that the major split between the closed user group (CUG) processing centres and the fully open market for software and services remains at roughly the same level as noted in INPUT's 1990 report, where it was measured at 52% vs. 48% in favour of the CUG segment. However the open market segment is expected to grow faster at a CAGR of 18% versus a CAGR of nearer 14% for the closed segment, over the forecast period to 1996.

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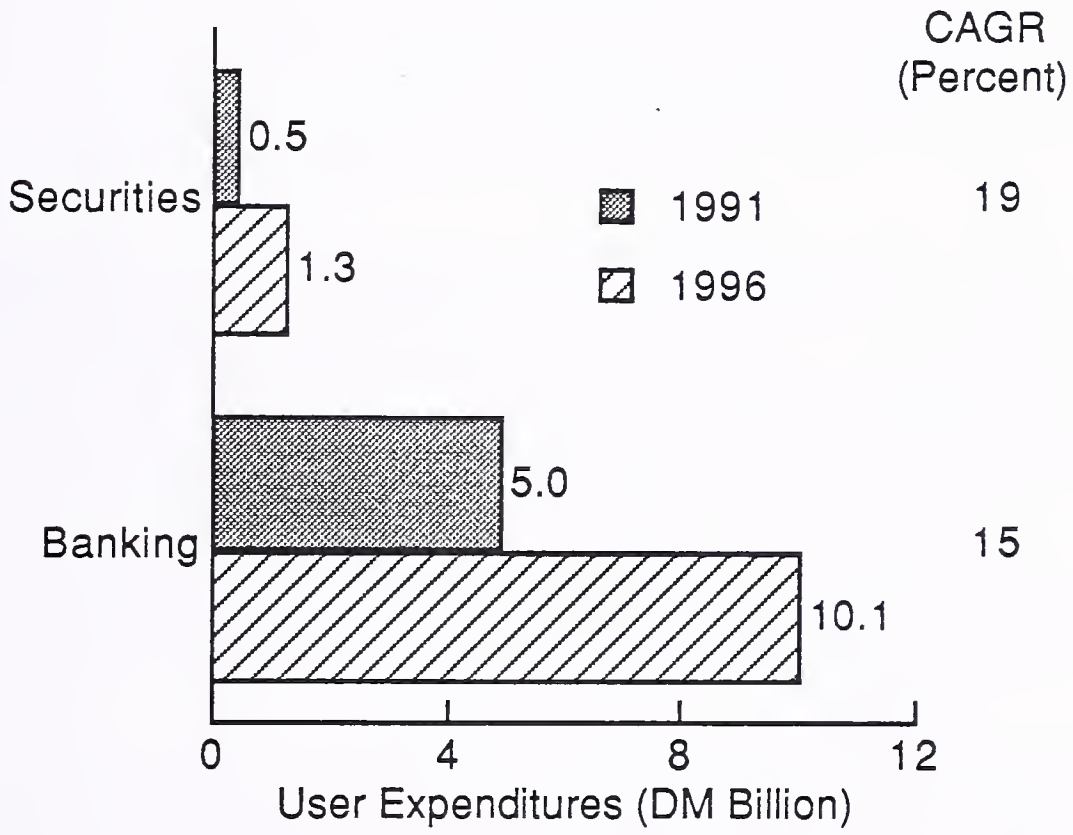
Exhibit IV-4

## Germany—Banking and Finance Sector by Subsector, 1991-1996





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The leading vendors in the German market are listed with their market shares in Exhibit IV-5. SNI (Siemens Nixdorf Informationssysteme GmbH) is the market leader with almost 12% of the market. Most leading vendors lost market share in 1990 as the market turned more seriously to embracing application software products as the most cost-effective delivery mode for the banking solutions of the 1990s. Notable exceptions to this trend were Cap Gemini, who took over the SCS company (SD-Scicon's German subsidiary) and Unisys.

**Exhibit IV-5**

**Top Vendor Rankings and Market Shares, 1990**
**Germany**

| Rank | Company | Market Share (Percent) | Estimated Revenues (DM Millions) |
|---|---|---|---|
| 1 | SNI | 11.8 | 573 |
| 2 | IBM | 7.2 | 350 |
| 3 | Fiducia | 3.4 | 168 |
| 4 | Reuters | 2.8 | 137 |
| 5 | Unisys | 1.8 | 87 |
| 6 | RRZ | 1.4 | 70 |
| 7= | Telekurs | 1.2 | 60 |
| 7= | Cap Gemini Sogeti | 1.2 | 60 |
| 9= | AC Service | 1.0 | 50 |
| 9= | Andersen | 1.0 | 50 |
| | Others | 67.0 | 3,265 |
| | **Total** | **100.0** | **4,870** |


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## 2. France

For several years France's banks were able to compensate for the earlier erosion of their profit margins by increasing business volumes. Howver some of France's leading banks reported sharp falls in profits in 1990. Profits were down 53 per cent for Banque Nationale de Paris (BNP), down 25 per cent for Socit Gnrale, and down 26 per cent for Paribas.

The few banks which reported higher profits were able to do so only because of unusual circumstances. Crdit Commercial de France (CCF), for example, reflected the difficult market conditions with an 8 per cent decline in operating profits, but after scrutinising most of its sovereign debt the previous year it was able to slash its country risk provisions, allowing net profits to rise by 15 per cent.

Crdit Lyonnais, which announced the best figures with a 19 per cent increase in net profits, did so only because of the integration of Altus Finance, the former banking arm of the Thomson electronics group and now the former parent of SCBF in France and CDS/Concept in Italy, both acquired in 1991 by Cogecom the holding company for France Telecom's non-regulated activities. The parent bank, like its competitors, recorded lower earnings. Group earnings per share declined, too.

The banks have been hit on a number of fronts at once, with profit margins and volumes both suffering at the same time as a sharp deterioration occurred in the quality of credit risks.

In the capital market sector, banks continued to record poor results. Corporate lending showed some recovery in volume, but this was more than offset for most banks by the number of defaults both in France and abroad where banks like Crdit Agricole, Paribas, Indosuez and Crdit Lyonnais were all caught up in several of the more spectacular UK bankruptcies. Crdit Lyonnais nearly doubled overall provisions for specific customer risks, the Paribas group raised its by 40 per cent.

Some banks, like Banque Franaise du Commerce Extrieur (BFCE), recorded a modest improvement in lending margins in 1990, and this has improved again in the first months of 1991. Most banks, however, said that any reversal in the downwards trend for lending margins had taken place only late in 1990, Socit Gnrale, for example.

Consumer banking also brought its headaches last year. Having for a long time neglected this segment of the market during the period of credit controls, the big French retail banks have undertaken a breakneck expansion of their consumer loan portfolios in recent years. Last year, the rate of increase slowed down, and the problem loans began to surface - as consumer credit specialists such as Compagnie Bancaire and Banque Sofinco had long warned that they would.


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Now French banks are having to change fast. They have been parochial and recently started suffering from poor profitability. Their existing systems are largely administrative and not customer-oriented. Competitive, customer-oriented systems are a priority since, for example, some banks are introducing asset and liability management services - but have no systems. Also, from 1st January 1993, the reporting laws for French banks will change thus precipitating changes to and possibly replacement of their existing systems.

French banks, therefore, currently need to update their basic systems and introduce new ones. This is a major task and cost/resource availability is a constraint. The major banks have large competitive software development groups using 4GL's etc. Products (including kernel software) are seen as a way of cost containment when implementing new applications. Risk and profit management is another strong need.

In the software product development phase, Professional Services companies need to work with clients to gain applications knowledge and a lead on the real requirements.

There is intense competition among software vendors. In consequence even large service companies, such as GFI, are focussing on niches rather than main-stream global banking solutions. New entrants to the market need to demonstrate immediate credibility and offer the potential of lower cost software development for new applications. Products are nearly all kernel software only. There must be plans set in train to develop complete package products with full support and maintenance.

Systems Operations outsourcing as a service is provided to a few banks and insurance companies. The volume of banking sector business opting for this solution type has grown, but vendors do not expect many new clients in the near future.

Exhibit IV-6 illustrates the overall sector growth across the two subsectors being used. Growth in the securities sector is anticipated to be slightly ahead of that in the Banking sector, but has been drastically revised downwards since the publication of our previous report due to the increasingly competitive nature of that market. The banking subsector will continue to be by far the larger sector.


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Exhibit IV-6

## France—Banking and Finance Sector by Subsector, 1991-1996

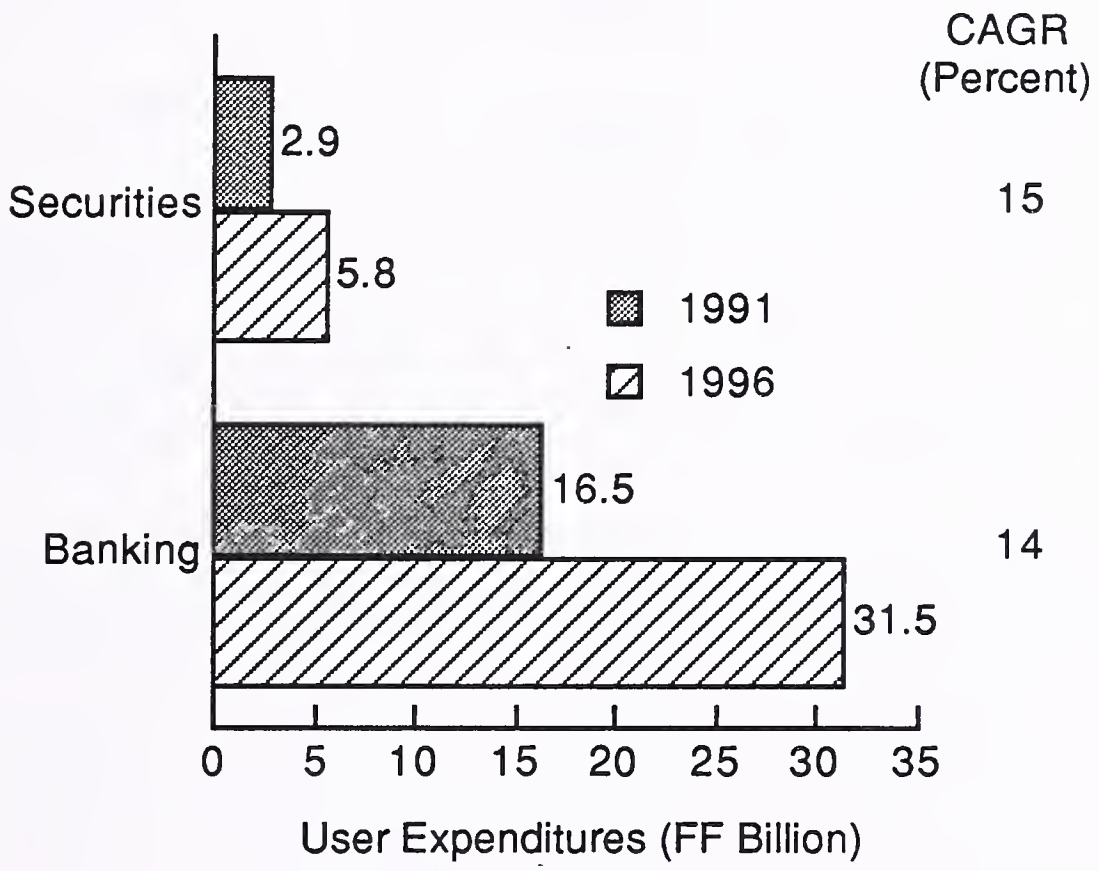



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Exhibit IV-7 gives INPUT's vendor ranking and market shares for the leading 10 vendors. Market conditions have favoured suppliers offering a traditional processing services solution such as Sligos and SITB (now part of the AXIME group which has also absorbed two other companies which featured in previous rankings, Sodinforg and Segin). France Telecom appears in the list for the first time due to its increasing involvement in network management outsourcing contracts and other network-intensive activities.

**Exhibit IV-7**

**Top Vendor Rankings and Market Shares, 1990**
**France**

| Rank | Company | Market Share (Percent) | Estimated Revenues (DM Millions) |
|---|---|---|---|
| 1 | Sligos | 6.4 | 1,093 |
| 2 | IBM | 6.2 | 1,052 |
| 3 | AXIME | 5.7 | 966 |
| 4 | Cap Gemini Sogeti | 5.4 | 915 |
| 5 | Bull | 3.4 | 572 |
| 6 | Reuters | 2.5 | 424 |
| 7 | France Telecom | 2.3 | 396 |
| 8 | Sema | 2.3 | 386 |
| 9 | Unisys | 1.7 | 294 |
| 10 | GSI | 1.6 | 275 |
| | Others | 62.6 | 10,670 |
| | **Total** | **100.0** | **17,060** |


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## 3. U.K.

Of all the major European economies, the UK's has suffered most from the current recession. This impact has been very hard on the banking sector as illustrated in a number of statements made at at the time the 1990 results of the major UK clearing banks were announced. "Business conditions for banks have probably been the worst in recent history, and they are unlikely to improve in the immediate future". This was the message from the chief executive of the Royal Bank of Scotland, when he reported a 58 per cent fall in interim profits earlier in 1991.

Although the Big Four clearing banks produced better results in 1990 than in 1989, this was only because the previous year's bottom line was depressed by heavy provisioning against Third World debt. At the operating level, all the big UK banks saw sharp declines in 1990. Their bad debt charges totalled a record 3.7bn ($6.2bn).

Bad debts have soared, new business has slumped, and with it the industry's earning power. The chairman of Barclays, the largest clearing bank, has gone on record as saying that conditions were the worst he had seen in his 38-year career.

These severe conditions have produced their particular casualties. One of them was the Midland Bank's proposed merger with the Hong Kong and Shanghai Bank, which had to be shelved because neither bank was strong enough to proceed. Five banks, the largest of them British & Commonwealth Merchant Bank, were also forced into administration - the first bad spate of bank failures in a decade. In 1991, few bankers see an early end to it all. The chairman of NatWest, told shareholders not to expect any improvements in the first half of this year. Because the peak in bad debts tends to lag behind the recovery, the latter part of 1991 could still bring further heavy losses.

The more enduring impact of the recession will be to speed up the shake-out in the banking industry. All the big clearing banks have now embarked on major cost-cutting measures which will involve the loss of more than 30,000 jobs and several hundred branches over the next two or three years. In some cases, as with Lloyds, this also involves a retreat from specific markets overseas, usually those on the periphery of the business.

The biggest structural question hanging over the clearing bank sector is the future of Midland now that the Hong Kong merger is off. Although there has been much speculation about a possible takeover of Midland, it is hard to identify a credible candidate. The new chairman is now engaged upon a strategy review, but he is expected to fight to keep Midland (once the world's largest bank) independent.

The merchant banking sector has also been hard hit. Profits have been down at leading names such as Schroders, Kleinworts, Warburg, Barings and Morgan Grenfell, with the causes mainly last year's depressed investment finance and corporate finance markets. An exception was Hambros, whose more focussed approach enabled it to report an 18 per cent increase.


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A notable disaster was Guiness Mahon which lost 35m on bad debts. This was significant because the group was acquired only two years ago by the Bank of Yokahoma in what was seen as an innovative move by a Japanese bank into UK merchant banking - but now one which others will be in no hurry to follow.

Neither has the recession helped the image of the banking industry. Accusations of banks "pulling the plug" on hard-pressed customers abound. Some banks have taken steps to meet this worsening market. They have re-opened the "intensive care units" with which they nursed corporate casualties through the last recession. In a few isolated cases they have even converted loans into equity, though they stress that this is not a trend which they wish to encourage.

The position of the banks has not been helped by the widespread view that banks contributed to the present recession through excessive lending in the 1980s - a charge which they naturally enough deny. Nonetheless, they are trying to complete a new Code of Conduct to head off the threat of tougher legislative controls on their activities.

Not all bankers take the same gloomy view. The Bank of Scotland, long considered one of the best-managed UK banks, has announced a 200m rights issue because it wants to take advantage of what it considers to be excellent prospects in the UK. The group chief executive, points out that the problems besetting many banks are helping to reduce competition and improve the profitability of the banking market. So any bank which can enlarge its market share should be well-placed. "Our whole delivery system is geared to winning market share", he says. "In future this business will have much higher margins".

The UK banking sector is heavily skewed towards wholesale and international banking due to the presence of the world's largest financial services centre in the City of London. Current estimates give a figure of over 1,000 financial institutions in the city, of which 550 are foreign banks and another 110 are UK-owned banks.

This population of enterprises has led to a highly polarised market for systems platforms:

- The few large UK banking groups have become heavy users of IBM mainframes. With one or two significant expections who opt for Unisys as a supplier, IBM is the main equipment supplier;

- IBM mid-range systems dominate the wholesale banking sector, although Digital also has a significant number of sites to its credit in this sector. Smaller hardware vendors may be present in the branches of international banks due to purchasing policies set in their home countries.

The growth of securities and other trading systems markets during the 1980s has been based around real-time dealing room systems and other dedicated sets of equipment which have required and encouraged the supply of modular mini-computer based applications products. The primary example of this group of product is the MIDAS family of products from the BIS Banking Systems division. Increasingly this sector is turning to workstation platforms such as those of SUN Microsystems.

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There remains in the UK financial services sector a significant percentage of modern computer installations which use a mixture of externally hired professional services and in-house produced tailored software. For even the most commonly used software products there is a customisation factor which often amounts to at least 40% of total implementation cost. It is only at the micro end of the market that the software is usually implemented without modification.

The use of software products is well entrenched in the mid-range based wholesale and international banking sectors. It is less well proven in the mainframe area, but there, therefore, exists an opportunity for software product vendors when systems come up for rewrite and conversion towards having more customer orientated design.

Exhibit IV-8 gives the subsector breakdown of the Banking and Finance sector for the U.K. The growth of banking applications is forecast to outstrip the securities sector by some three percentage points, thus increasing its share of the sector market to 67% by 1996 from its current (1991) 63%. This growth reflects the banks' need to update their major accounting systems in the direction of becoming more customer-orientated and less account driven.


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Exhibit IV-8

## U.K.—Banking and Finance Sector by Subsector, 1991-1996

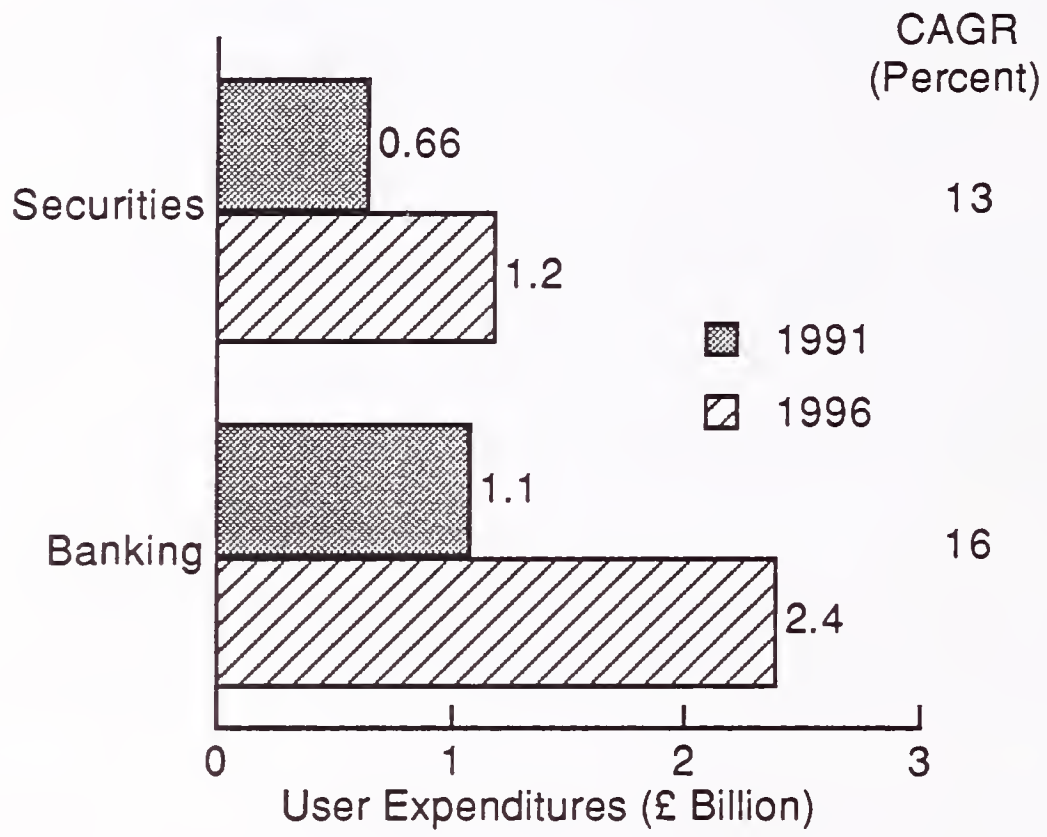



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Exhibit IV-9 shows the U.K. vendor rankings and market shares. Again the top 10 suppliers have lost market share since 1989, with Reuters the market leader being the main loser. Digital's entry into the tables reflects its acquisition of Data Logic's Financial Services division. BIS, the mid-range system segment leader, has displaced CGS/Hoskyns in this year's rankings.

**Exhibit IV-9**

**Top Vendor Rankings and Market Shares, 1990**
**United Kingdom**

| Rank | Company | Market Share (Percent) | Estimated Revenues (£ Millions) |
|---|---|---|---|
| 1 | Reuters | 8.1 | 129 |
| 2 | IBM | 5.7 | 90 |
| 3 | ICL | 2.5 | 40 |
| 4 | Unisys | 2.1 | 33 |
| 5 | Dow Jones/ Telerate | 2.1 | 32 |
| 6 | Sema | 2.0 | 31 |
| 7 | Andersen | 1.9 | 30 |
| 8 | Digital | 1.8 | 29 |
| 9 | EDS/SD-Scicon | 1.7 | 27 |
| 10 | BIS | 1.6 | 25 |
| | Others | 70.5 | 1,115 |
| | **Total** | **100.0** | **1,581** |


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## 4. Italy

Banking in Italy is highly fragmented in terms of the number of banks operating and the geographic coverage of each. All told approximately 1,300 banks have been counted but this number is expected to halve during the course of the current decade. The number includes four types of organisation:

- Publicly owned banks with equity held by government, central or local,
- Private banks, which may also issue shares to the general public,
- Savings banks, which are usually local or at best regional in geographic scope,
- Finance institutions, which specialise in commercial lending, leasing and import/export trade financing.

Many of the smaller banks and local savings banks act as agents for the larger national banks. Therefore, there is a tiered structure in which many of the small banks can be thought of as part of the national distribution chain of the smaller number of major names.

Diversifying away from mainstream banking, many banks act as intermediaries for the national insurance companies, where two of the big names are Assicurazione Generali and Assicurazione Italia.

During the 1980s Italian banks increased their activities in securities trading in line with the growth in the stock markets, principally that in Milan. In comparison with other major Western European countries, Italy does not generate as much trading in overseas and international securities or other financial instruments.

The Italian market for information systems related to the banking sector is dominated by IBM equipment. It is estimated that 80% of the installed base of mainframe and midrange systems is being supplied by IBM. Of the remaining 20% split among other vendors such as Bull Italia, Olivetti, Unisys and NCR, Bull is estimated to hold around 10%. However, it is expected that Bull will withdraw from the mainframe sector and concentrate on the slowly growing opportunities for open systems.

With this high penetration of IBM platforms, there is intense pressure on software and professional services companies to provide IBM expertise and/or products to run on IBM platforms.

Exhibit IV-10 shows the breakdown of the total Italian market of almost Lire 1,500 billion between banking and securities subsectors. Because of the relatively underdeveloped status of each subsector vis-a-vis their counterparts in the other major countries, both are forecast to grow faster than the European average, with banking at 17% just slightly ahead of securities. The major application requirements are branch systems for retail banks and increased automation of trading activities among all market participants.

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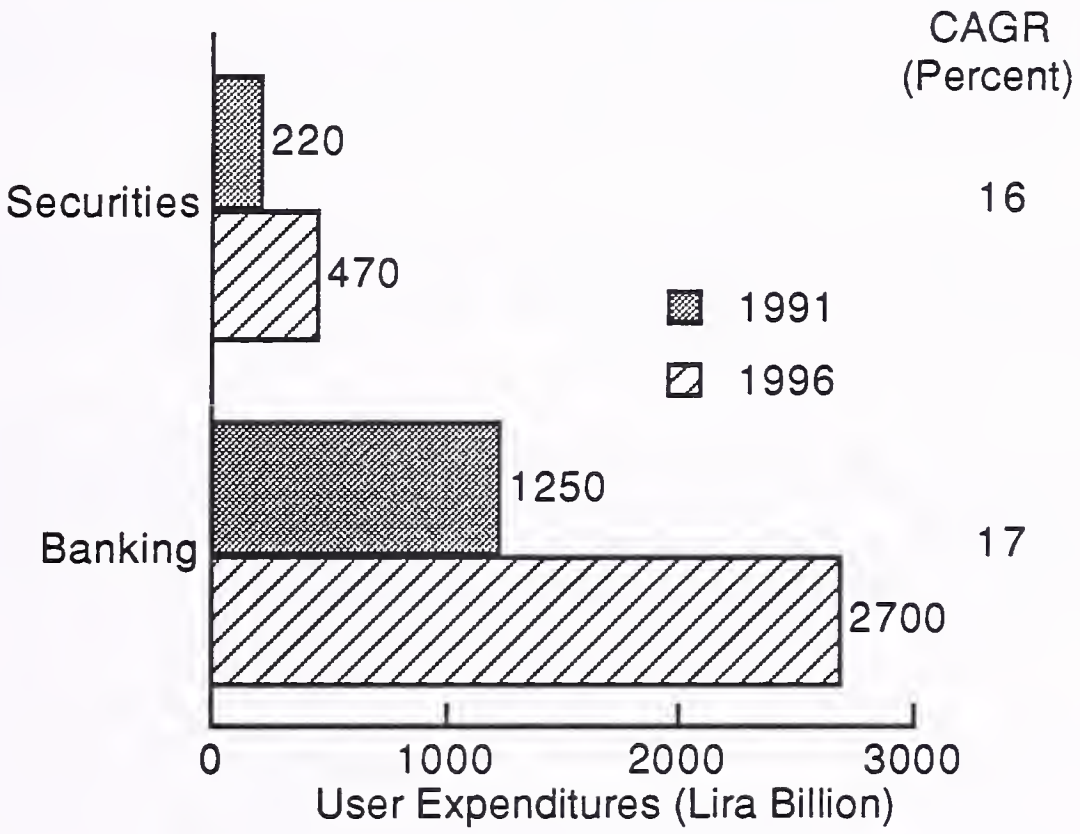
Exhibit IV-10

**Italy—Banking and Finance Sector by Subsector, 1991-1996**





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The Italian computing services market has three large players in it - Finsiel (the services company owned by the state holding company, IRI), IBM and Olivetti. These companies have between 7% and 12% of the overall software and services market each, but IBM's share of the banking services market goes higher than this, while Finsiel and Olivetti have correspondingly less.

Under these three leaders (who are joined by Reuters as the Italian no. 3) comes a second level of 30-40 companies which have about 1% of the market each. This set of middle-ranking companies contains several which are owned by banks or jointly owned by a bank, an industrial company and a public sector organisation with some major or minor parts of the equity being held by the owners and managers.

Exhibit IV-11 shows the top 10 rankings and market shares for the Italian Banking & Finance sector. This chart indicates the relatively high penetration of the leading 10 vendors with a 55% market share compared to the 30% or 40% totals in the more advanced Northern European country markets.

The remaining 46% of the market is shared among the many small local software and service bureau companies, many of whom, reflecting the situation between the larger and the smaller banks, act as distributors and VARs for systems being delivered to or installed in local offices in Italian financial services companies.


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## Exhibit IV-11

## Top Vendor Rankings and Market Shares, 1990
## Italy

| Rank | Company | Market Share (Percent) | Estimated Revenues (Lira Billions) |
|---|---|---|---|
| 1 | IBM | 20.6 | 270 |
| 2 | Olivetti | 6.1 | 80 |
| 3 | Reuters | 5.7 | 75 |
| 4 | Finsiel | 4.6 | 60 |
| 5 | GEIS | 3.4 | 45 |
| 6 | Systems & Management | 2.7 | 35 |
| 7 | Unisys | 2.4 | 32 |
| 8= | Cap Gemini Sogeti | 2.3 | 30 |
| 8= | Data Management | 2.3 | 30 |
| 9 | Datitalia | 2.0 | 26 |
| 10 | Engineering | 1.8 | 24 |
| | Others | 46.0 | 603 |
| | **Total** | **100.0** | **1,310** |


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## 5. Spain

Spanish banking has come under pressure from two directions:

- The need to expand and diversity to catch up with the rest of Europe in terms of services,

- The current recessionary climate in the world economy.

As the country prepares for the single European market in financial services, margins on core lending activities are being eroded, and rising debt levels have been hitting profitability. Banks are therefore being forced to look at ways of making their extremely dense branch networks more efficient.

In 1990 total net profits, as a percentage of total assets, fell from 1.54 per cent to 1.52 per cent, having increased from 1.4 per cent in 1988, according to figures produced by the Associacion Bancaria. Traditionally Spanish banks have been very profitable, because they have been able to secure cheap deposit bases and lend at relatively expensive rates. This lending margin was equal to 4.4 per cent of total bank assets in 1989 - the highest rate in the EC outside Portugal and Greece.

Earlier in 1991, a survey listed two Spanish banks which specialise in retail business, Banco Popular and Banco Santander, as among the five most profitable banks in the world.

Although Spain should avoid a recession (the government still expects economic growth of around 3 per cent in 1991), the number of bad debts is rising. Last year, profitability was also adversely affected by competition, especially over interest-bearing current accounts.

Barclays Bank's Spanish subsidiary initiated a period of increased competition as long ago as 1986, but the war of "superacounts", or *guerra de supercuentas,* really started in earnest in September 1989, when Banco Santander (Santander) increased the interest rates on its standard current account. Santander launched a nationwide advertising campaign - modelled on Barclays own approach - to drive the fact home. Several of Santander's leading competitors eventually followed suit, but the gradual decline in interest rates over the past year has reduced the room for manoeuvre available to banks.

The results of this competition have been quick in coming. The decision by Banco Central and Banco Hispano Americano to merge earlier this year is, in part at least, a response to their belief that they need to be bigger in order to be able to spread their business beyond traditional retail boundaries. That realisation was underlined by a Government decision to merge all the public banks into the biggest bank in the country, led by Banco Exterior, which, the authorities said, would "act belligerently in the markets". Nevertheless, Santander has emerged as the clear winner, increasing its market share among the so-called big seven Spanish banks by 1.7 per cent between December 1989 and September 1990. Santander's private sector deposits rose by 21 per cent over this period.

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At the beginning of April, Santander announced a cut in its mortgage lending rates, indicating to some observers that the competition may switch to that front. However, that seems unlikely. Bank lending for personal loans has increased in the past two to three years, but loans to individuals still account for less than 30 per cent of outstanding bank assets. In addition, the mortgage market is still heavily dominated by savings banks such as the Caja de Madrid, La Caixa and the state-run Instituto Hipotecario Oficial.

Instead, competition is likely to focus on other areas. Banks will attempt to increase the sales of non-financial products, such as life insurance. Already, alliances between banks and insurers have been mushrooming, with banks receiving commissions for policies sold through their branches. For example, Santander has developed relationships with the US company Metropolitan Life, with which it has formed a joint venture. The bank believes that it is relatively easy for bank staff to sell life products that have a financial component such as many savings orientated contracts.

Banks in Spain are likely to seek to reduce their overheads. Figures produced by the Associacion Bancaria show Spain to be the most heavily banked country in the European Community. Average expenses are higher than in every European country apart from Ireland and the UK (both of which compensate by lending more profitably and by selling other non-financial services) and Portugal.

Spaniards have tended in the past to bank with those branches closest to their homes, and convenience has been an important element in influencing which institution customers choose to bank with. Spain has more banks per inhabitant than any country, apart from Luxembourg, and on average its 16,623 branches make loans of only $7.1 million - less than half the amounts loaned by Italian banks, and considerably lower than any other country except Greece.

Bankers believe this pattern will change as Spain becomes a more urbanised society, and customers begin to make more use of mechanised cash points. Many more banks will rationalise their operations. Smaller but better qualified staffs, backed up by data-processing systems and less centralised decision-making will be necessary.

Santander has currently around 1,000 branches, compared with the 2,000 to 3,000 branches operated by BBV, Banesto and Banco Central, so it is under less pressure to cut its network. In the short term, banks will seek to sell off subsidiary networks. Last year, for example, Banco Santander sold its Banco Commercial Espanol brand to Crdit Lyonnais. This year, Banco Santander sold another of its subsidiaries, Banco Jover of Catalonia, to Crdit Lyonnais. Banesto is to sell it Catalan unit, Banc Catala de Credit, to Istituto Bancario San Paolo di Torino of Italy. This rationalisation will go on for two to three years at a rapid pace before starting to settle down by 1995.


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The Spanish market for systems is less dominated by IBM in the Banking & Finance sector than that of any of the other four major countries researched. Being less mature than the other major countries in terms of the use of data processing, Spain has allowed Digital Equipment to obtain a strong foothold on the back of the move to distributed procession. Moreover, the potential for UNIX and open systems networks is greater because of the weaker position of entrenched proprietary systems.

Exhibit IV-12 shows the Spanish market for Banking & Finance sector systems, again split by subsector. The securities subsector is forecast to grow faster (at 28%) than the Banking subsector (23%) but will still only have a 21% market share by 1996.


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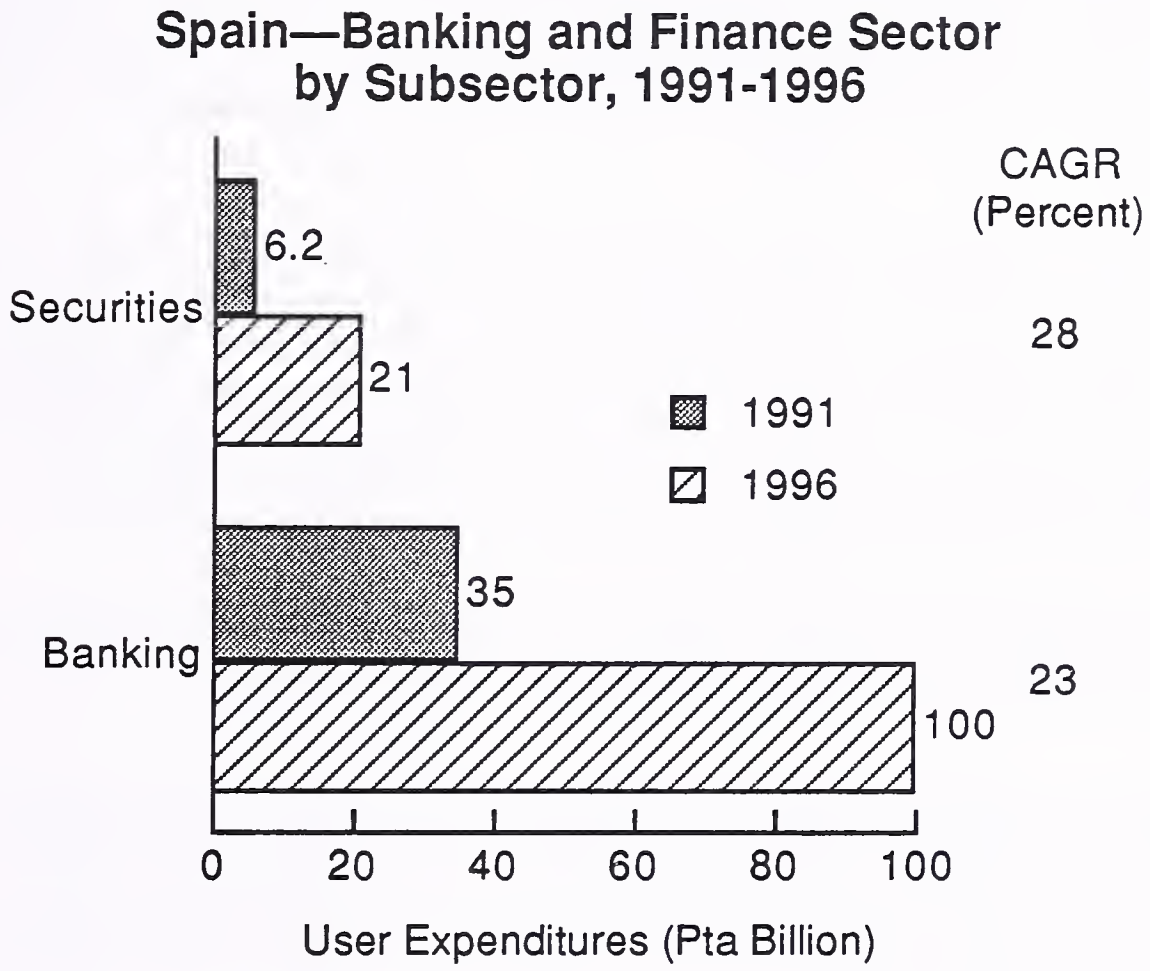
Exhibit IV-12





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The services market also affords opportunities to improve the infrastructure technology supporting computing systems because of the lower penetration in Spain of the service approaches already current in the large markets of the northern countries of Western Europe:

- In Spain, processing services are still strong and accepted as a delivery mode for services to financial institutions. Two of the seven vendors interviewed in 1991 concentrated on this delivery mode, with application products firmly embedded in the service marketed and not used per se as part of the brand image of the service line,

- In-house software developments are supplemented by professional services obtained from external vendors, but teams are normally set to work, often on the user site under user management control, to provide tailored software suites to implement banking and securities houses applications. These applications are regarded as user-specific or certainly industry-specific; the use of ready-built package products is still only found in a minority of cases. Two firms visited by INPUT in 1991 were concentrating on providing professional services with high calibre staff:

  - One smaller software house with under 100 staff was starting to capitalise on the product potential of the projects it had already undertaken,
  - Another had just been formed from a merger and acquisition phase which has propelled it into being Spain's largest indigenous systems company. It is concentrating its marketing thrusts in the areas of large systems integration (SI) contracts and consultancy assignments, hoping to leverage its large pool of expertise in both directions.

All vendors concurred in seeing a continuing strong demand for computing services coupled to the ongoing lack of skilled and trained staff. Exhibit IV-13 gives the vendor rankings with market shares of the leading 10 vendors in Spain, who command together 45% of the market.

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## Exhibit IV-13

## Top Vendor Rankings and Market Shares, 1990
## Spain

| Rank | Company | Market Share (Percent) | Estimated Revenues (Pta Millions) |
|---|---|---|---|
| 1 | IBM | 9.9 | 3,120 |
| 2 | Reuters | 8.4 | 2,970 |
| 3 | Eritel | 6.0 | 2,125 |
| 4 | Cibernos | 4.6 | 1,620 |
| 5 | CCS | 4.6 | 1,615 |
| 6 | Unisys | 3.5 | 1,235 |
| 7 | Ibermatica | 3.1 | 1,080 |
| 8 | CGS | 2.2 | 770 |
| 9 | Digital | 3.2 | 760 |
| 10 | GEIS | 1.2 | 405 |
| | Others | 55.3 | 19,450 |
| | **Total** | **100.0** | **35,150** |

### 6. The Rest of Europe

Exhibit IV-14 indicates the subsector split of expenditures in all the other Western European countries taken together. The securities subsector is relatively highly developed in terms of its market share, which at 17% of the equivalent overall sector, ie. taking Banking as well as Securities into account, is second only to the UK in this respect. This reflects the presence of the important stock exchanges and other markets associated with the Zurich, Amsterdam and Stockholm financial centres.

The Securities subsector is forecast (at 16%) to grow faster than the larger Banking sector (14%), but not with enough of a differential to make much of an impact on its market share, which will still only be at an 18% level in 1996.

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Exhibit IV-14

## The Rest of Europe—Banking and Finance Sector by Subsector, 1991-1996

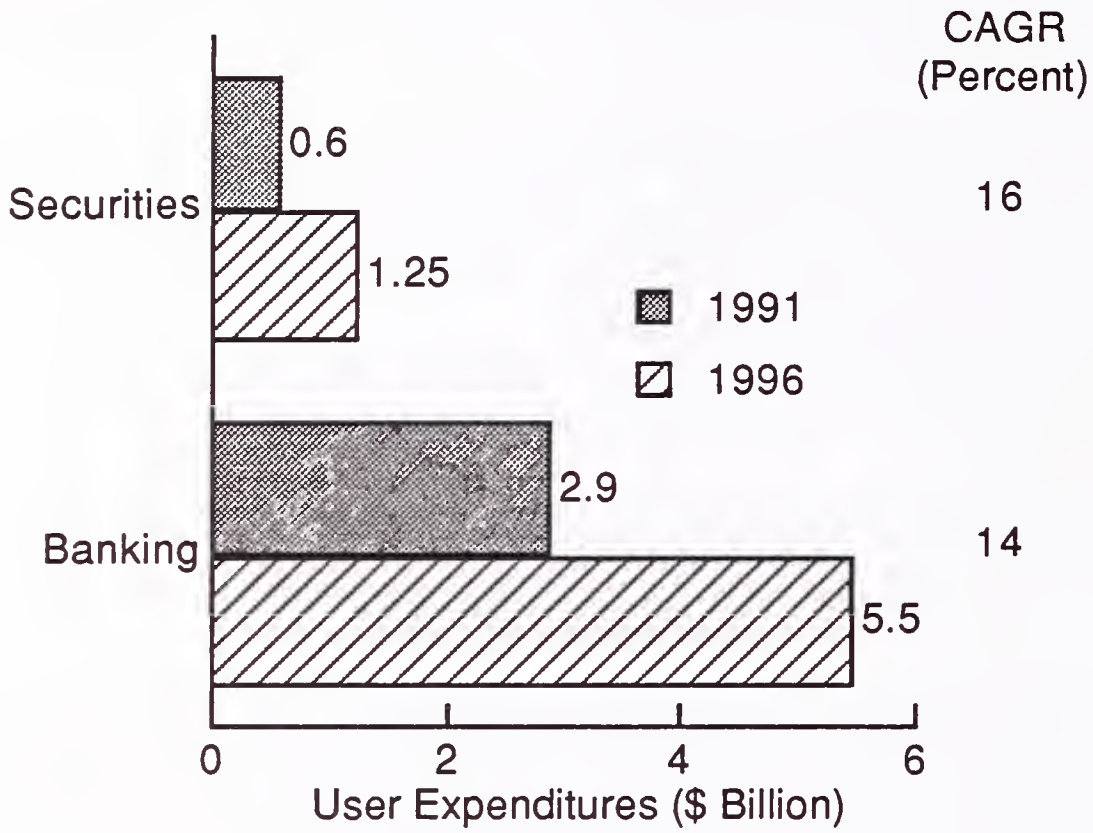



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Exhibit IV-15 lists the top ten vendors in the aggregated sum of these country market sectors. The list contains four companies that are the leaders in the processing services segments in their national markets:

- Telekurs in Switzerland
- PBS in Denmark
- Fellesdata and Banken Betalingssentral in Norway.

This emphasises the importance of traditional delivery systems to the Banking & Finance sector.

Reuters appears near the top of the list as in most countries, together with other big names of the industry:

- IBM
- Unisys
- SNI
- ICL.


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## Exhibit IV-15

## Top Vendor Rankings and Market Shares, 1990
## The Rest of Europe*

| Rank | Company (Country of origin) | Market Share (Percent) | Estimated Revenues (DM Millions) |
|---|---|---|---|
| 1 | IBM (US) | 8.9 | 275 |
| 2 | Reuters (UK) | 4.1 | 125 |
| 3 | Telekurs (CH) | 3.5 | 108 |
| 4 | PBS (DK) | 3.4 | 105 |
| 5 | Fellesdata (N) | 2.9 | 90 |
| 6 | Banken Betalingssentral (N) | 2.8 | 85 |
| 7 | Unisys (US) | 1.7 | 52 |
| 8 | Volmac (NI) | 1.6 | 50 |
| 9 | SNI(G) | 1.6 | 49 |
| 10 | ICL/Nokia Data (UK/SF) | 1.3 | 40 |
| | Others | 69.8 | 2,150 |
| | **Total** | **100.0** | **3,080** |

* Included for the purposes of this study are the following countries:

- Sweden
- Denmark
- Finland
- Norway
- Netherlands
- Belgium/Luxembourg
- Austria
- Switzerland
- Portugal
- Greece
- Ireland.


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# Vendor Profiles

# V Vendor Profiles

This chapter contains six profiles of important vendors active in the Banking and Finance sectors of the Software and Services market. The vendors have been chosen to illustrate the types of application software products which are currently being marketed.


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A
# BIS Banking Systems International Ltd.

## BIS BANKING SYSTEMS INTERNATIONAL LTD.

### The Company

Established in 1975, BIS Banking Systems has developed a well respected range of software products for the international banking community. MIDAS is its leading and best known product.

The company is a subsidiary of the BIS Group, which in turn is 100% owned by NYNEX of the USA following its acquisition in 1987. The BIS Group employs 1700 staff in the UK. The Banking Systems company employ about 700 staff and had a turnover of about 40m in 1990. Some 200 staff are devoted to R&D and product developments.

The company's main centres of activity are the UK, Luxembourg (120 staff) and France. Switzerland, Germany and Spain are next in importance although there are no local offices. The company has other offices in major banking centres outside of Europe (e.g. Japan).

Because of its focus on Banking systems, the company has been somewhat less affected by the post-`big bang' slump in securities trading than many other companies. It has shed some staff but seems to have maintained a healthy flow of business and profits. Roger Graham, the BIS Group MD has claimed that NYNEX is developing the synergy between BIS products and communications network services to good effect. However, little of this seems to have emerged in the UK as yet. It is probably predominantly a US effect.

### Key Banking and Finance Products

**MIDAS ABS (Advanced Banking System)**

This is the key product family. Developed in-house in 1979, it still earns the majority of the company's revenues. Many global and major national banks are clients.

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It is a modular product offering comprehensive functionality for wholesale and retail banking. Functions include treasury management, FOREX, risk management, investment management, funds payment, lending, and management and operational control. Originally developed on IBM S/34, the product has undergone continuous development and migrated through the hardware range of S/36 and S/38 to reside on AS/400 currently. PS/2s are used for the front-end and the RS 6000 box (running AIX) can be included for some functions. There are no current plans for further product migration.

All sizes of bank are target clients. The smaller banks typically use the product with little customisation. Larger banks can afford to tailor the product to their specific needs. Clients also include Building Societies and corporate traders.

**FUNDMASTER**

FUNDMASTER provides multi-asset multi-currency investment management functions. Its a modular design based upon general ledger, stock management, market and client related information. It uses SWIFT and telex communications, and provides comprehensive back office facilities for cash management, portfolio valuations, input investment instructions, control of allocations, commissions and safe-keeping operations.

The product was developed by BIS and launched in April 1986. CASE tools were used to develop the product in RPGIII. Unusually the product is also available to clients as a logical design for implementation on most hardware platforms. To date, no client has taken up this option whereas 4 sales of the completed product on AS/400 have been made.

The product sells for around 1m with a high degree of customisation (up to 50%).

AGS is considered its main competitor.

**Retail-Plus**

Retail-Plus is designed to help retail finance organisations to review and analyse customer data and target new products and services to them. Each product or service can be identified in the system and facilities are provided for assessment of product profitability, client profitability and management information.

It is targeted at banks with up to 10 branches with medium to high volumes of retail banking business.

BIS acquired the source code of the product from CVS Newtrend 3-4 years ago in the USA. BIS developed the system further and sells it as an own product for 250 - 400k. It has been on sale for about 6 months, with clients in Mauritius, Hong Kong and Yugoslavia.


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Jack Henry and IBM offer competing products. That no Western European clients of BIS have taken the new product suggests that it could be a late entrant to the market.

Retail-Plus runs on AS/400 hardware and can communicate with ATMs and other interfaces for customer data collection. The trade finance product Leo is sold in conjunction with Retail-Plus.

### BIS Leo

This is a trade finance system and automates the functions of accounting, risk management and administration. It consists of 5 integrated modules covering:

- letters of audit
- bankers acceptances
- collections
- bills financing
- reimbursements.

The product runs on AS/400 in native mode and provides a powerful PC-based document (e.g. letters of credit) customisation capability which can link direct to a customer's PC.

Originally acquired from a US company, BIS has sold Leo for 6-7 years. There are 65 sites, 20 of which are in Europe.

### DR-ONE

This is a PS/2 based dealing room delivery system running a token ring LAN. It is based on an open architecture and allows for the integration and delivery of both digital and video market information sources, in-house host systems, Excel and Lotus 1-2-3.

Acquired 2 years ago from an Australian company, there seem to have been few European sales. There is an installation in Holland, with the largest system in Australia where Westpac have a 180 position system installed.

The workstation sells for $30k. There is very little customisation involved.

### Financial Performance

Since NYNEX acquired BIS, there have been no company figures published by the group itself beyond statutory requirements. It is believed that the BIS Banking Systems Division has weathered the recession in the UK quite well and has benefited from an extensive customer base in other work banking centres in the USA, Japan, Hong Kong and Western Europe.

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# B
# Financial Systems Ltd

## FINANCIAL SYSTEMS LTD

### The Company

Financial Systems Limited started about 11 years ago and developed its first banking product on a Micro 5, one of the first multi-user PCs. Recently, turnover reached 1m, having grown steadily for several years. Profitability is estimated at around 10-15% of turnover.

BOS Software Limited (our original target respondent) is now part of the TIS group, which uses Financial Systems as its banking and finance sector VAR. TIS is very UNIX orientated and this has shaped the software development strategy of Financial Systems. The MicroBank suite of programs consisting of modules covering a wide range of banking functions is the main product range. Fund 2000 and Bank 2000 are new products, with the latter eventually superseding MicroBank. The company is small, responsive to client demands and claims to invest heavily (in proportion to turnover) in product R & D. However, the company has few sales overheads as it relies on references from TIS, its distributors in Hong Kong and the Cayman Islands, referrals from existing clients and sell-ons.

Its market focus is the offshore banking industry and clients are more likely to be in Gibraltar and the Cayman Islands than in London.

Some 80% of clients take the products as they stand. A few larger clients spend as much on customisation as on the product, but more typically customisation costs about 50% of the initial product price.

The company seems content with its niche role and spends little time worrying about market trends and developments unless they arise through the existing client base.

### Key Products

**MicroBank**


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MicroBank is the main, modular product covering banking, securities, trusts, corporate administration and accountancy, fixed asset register, sales ledger, etc. It is a back office system targeted at the offshore banking market. Primarily the product is PC based, but, through Unix, it can operate on a wide range of platforms, including VAX. Communications are provided by BOS's (or TIS's) own Arcnet product or by using Novell software.

**Bank 2000**

This is the replacement product for MicroBank and is currently under Beta test in two sites. It runs on the same hardware platforms.

**Fund 2000**

Also a new product, with four sales to date, Fund 2000 is targeted at Unit Trust managers operating in the offshore financial markets.

## Financial Data

None is provided.


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# C
# Management Data Ges. mbH

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**MANAGEMENT DATA Ges. mbH**
Julius Tandler-Platz 3
1090 Wien
Austria
Tel: 43 1 31 333 82 00
Fax: 43 1 31 333 81 18

Joint MDs: Gerhard Kratky, Wilhelm Losert
Status: Private
Number of Employees: 148
Revenue (FYE 31-12-90): ATS 445.4 million (without associated companies)

---

## The Company

Management Data Ges. mbH (MD) was founded in 1971 by Creditanstalt. Headquartered in Vienna, it has branches in Innsbruck and Salzburg.

MD currently has over 3,000 domestic customers, and abroad the Management Data banking software is used by more than 500 clients in over 50 countries.

The company is organised into three divisions:

- System House
- Projects/Consulting
- International Banking Software

On January 1st, 1991, Management Data acquired a majority holding (75%) in CBM, Computer-, Betriebswirtschaft und Management-Service GmbH, originally a 100% subsidiary of the First Austrian Savings Bank. CBM's product range complements current MD products and consists of: software tools for system engineering (CASE) and software packages to support top executives in their decision making processes. This synergy is expected to provide MD with the future resources and capacity envisaged in the growth policy being pursued by the company.

In order to be an "international" partner for its clients, MD became a founding member of Allied Computing Services Ltd (ACSL), together with seven other leading system houses in Europe. ACSL is located in Switzerland and offers through its members a consistent quality standard to its customers who operate on a European scale.

During 1989 and 1990, Management Data established subsidiaries in Germany, the U.K., Hungary and Singapore. The company has a network of distributors and agencies covering Belgium, France, Greece, Iceland, Italy, Japan, Korea, Luxembourg, Portugal, South Africa, Spain and Yugoslavia.

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The following three tables contain data on the management, shareholders and affiliates and subsidiaries respectively.

## Exhibit A

OTHER EXECUTIVES

| NAME | POSITION |
|---|---|
| Fritz Petrides | Manager, Finance |
| Gerhard Hofer | Manager, System House |
| Alexander Czernin-Morzin | Manager, International Banking Software |
| Walter Descher | Manager, Project Consulting |
| Gerhard Kratky | General Manager |
| Brigitte Hanreich | Manager, Marketing |

## Exhibit B

SHAREHOLDERS

| SHAREHOLDER | PERCENT OWNED |
|---|---|
| Creditanstalt<br>Management, Management Data | 95<br>5 |


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## Exhibit C

### SUBSIDIARIES AND ASSOCIATED COMPANIES

| NAME | COUNTRY | % OWNED |
|---|---|---|
| ACSL Allied Computing Services | Switzerland | 17 |
| Management Data GmbH | Germany | 80 |
| Management Data Kft | Hungary | 100 |
| Management Data Asia Pacific Pte Ltd | Singapore | 80 |
| Management Data Ltd | U.K. | 80 |
| JUS-EDV Systeme GmbH | Austria | 95 |
| CMD Datenverarbeitungs- und Verlags GmbH | Austria | 50 |
| CBM Computer, Betriebswirtschaft, und Management Service GmbH | Austria | 75 |
| Semper Data GmbH | Austria | 25 |

In December 1990, Management Data employed 148 staff - not including associated companies.

## Exhibit D

### 1990 EMPLOYEE CHART

| EMPLOYEE CATEGORY | NUMBER OF EMPLOYEES |
|---|---|
| Software Development | 70 |
| Sales | 20 |
| Support | 20 |
| Management and Administration | 38 |
| **TOTAL** | **148** |


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## Key Products and Services

Management Data is organised into three divisions:

- System House
- Projects/Consulting
- International Banking Software.

### System House

MD views itself as a service provider and concentrates not just on selling hardware but also on providing IS services and support, and user education. The following services are offered:

- Integrated solutions based on software, hardware, consultancy, training, maintenance, peripherals and additional equipment. For example, consultancy on and installation of remote data processing systems including Btx, telex, teletext, local networks and desktop publishing

- Total business solutions for lawyers, notaries, business trusts, hotels, tourist associations, trade, industry, publishing houses, and other organisations

- Training in PC software and hardware

- Software and hardware support of installed systems.

### Projects/Consulting

This division is organised into the following business areas:

IS Consulting:

- Architectures for information processing
- Construction of print documents
- Systems selection
- Project implementation, office automation, videotex
- Project consulting.

Software development:

- Systems development
- Turnkey projects
- Maintenance and development of user software.

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**International Banking Software**

MD offers the following software products:

- CORONA II, CORONA/400, Baby-CORONA II: Bank coordination for host system and IBM PS/2 (PC AT)
- HERMES: Message and query system
- COMFORT, Baby-COMFORT: Coordination of foreign exchange trade confirmation
- NADOK: News from the document business
- ROBOT: Development system with use in the banking credentials business
- WINGS: Project management system
- PCX: Communication system for a PC acting as an external Btx computer
- DBTOP: Data dictionary/repository for all business related information.

**Market Analysis**

The following three tables contain revenue breakdowns as reported by Management Data itself.

**Exhibit E**

**1990 MARKET ANALYSIS BY DIVISION (ATS MILLIONS)**

| DIVISION | REVENUE | PERCENT |
|---|---|---|
| System House | 222.7 | 50 |
| Projects/Consulting | 44.5 | 10 |
| International Banking Software | 178.2 | 40 |
| **TOTAL** | **445.4** | **100** |


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## Exhibit F

**1990 MARKET ANALYSIS BY PRODUCT SERVICE (ATS MILLIONS) (MD CLASSIFICATION)**

| MD SERVICE | REVENUE | PERCENT | PERCENT |
|---|---|---|---|
| Standard software products | 110.8 | 75 | 25 |
| Individual software | 17.5 | 12 | 4 |
| Customer support | 12.9 | 9 | 3 |
| Education | 4.1 | 3 | 1 |
| Others | 3.6 | 2 | 1 |
| **TOTAL SERVICES** | **148.9** | **100%** | **33** |
| HARDWARE/ACCESSORIES | 296.5 | - | 67 |
| **TOTAL** | **445.4** | **-** | **100%** |

## Exhibit G

**1990 MARKET ANALYSIS BY INPUT DELIVERY MODE (ATS MILLIONS)**
**AUSTRIA ONLY**

| INPUT DELIVERY MODE | REVENUE | PERCENT |
|---|---|---|
| Software Products | 30 | 8 |
| Professional Services | 28 | 7 |
| Turnkey Systems | 327 | 85 |
| **TOTAL** | **385** | **100** |


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## Exhibit H

**1990 MARKET ANALYSIS BY INDUSTRY SECTOR (ATS MILLIONS)**

| INDUSTRY SECTOR | REVENUE | PERCENT |
|---|---|---|
| Banking/Finance | 134 | 30 |
| Insurance | 44 | 10 |
| Distribution (Retail) | 89 | 20 |
| Distribution (Wholesale) | 134 | 30 |
| Local Government | 22 | 5 |
| National Government | 22 | 5 |
| **TOTAL** | **445** | **100** |

## Financial Information

Exhibit I

**FIVE YEAR FINANCIAL SUMMARY (FYE 31-12) (ATS MILLIONS)**

| YEAR | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|
| Revenue | 133.5 | 163.6 | 227.8 | 343.8 | 445.4 |

Sixty million Austrian schillings (ATS millions) of 1990 revenues were generated outside Austria. The revenues of associated companies (i.e. those in which MD has only a minority stake) are not included.

Sixty percent of 1990 revenues were generated from the hardware component of turnkey sales.

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# D
# SD-Scicon Plc

## SD-SCICON plc

### Banking and Finance Activity Profile

### The Company

SD-Scicon was formed in 1988 when Systems Designers bought the Scicon Corporation from BP. Since then, the company has undergone significant restructuring and the divestment of some of its European and US operations. In particular, it sold its US subsidiary, Warrington Financial Systems Inc. in February 1990 and its German operating company SCS to Cap Gemini Sogeti in that August. SCS had a significant business in the banking and finance markets of Germany.

In October 1990, SD-Scicon acquired a 51% shareholding in Charbonnages de France Informatique (CdFI). This company is being managed through GFI, SD-Scicon's French subsidiary. Its services are largely IBM mainframe computer bureau based with a significant software products business. The products include a range of accountancy systems.

In Europe the company now largely operates from the UK and France with a number of small subsidiary and joint venture companies in Benelux, Italy, Spain and Greece.

The company provides a wide range of software products and services to most industrial, commercial and government markets. These are offered throughout Europe. For the continuing business, some 15% of European revenues are derived from services to the banking and finance markets. Growth in the French market has been counterbalanced by a declining UK activity over recent years.

Overall, the company made an increased loss in 1990 despite selling its major loss making subsidiary, SCS. The losses have arisen from major software development project over-runs (in the UK). At the time of writing (July 1991) the company has been subject to predatory bids from Cray Electronics and EDS. Survival as an independent company is the current priority. There is little sign of a coherent business development strategy or cooperation among the operating companies.

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## Finance Activities

Many divisions of SD-Scicon sell some or all of their products and services into the banking and finance sectors. They cover a diversity of applications.

Connex Europe is an SD-Scicon business based in the UK. It was established in early 1990 following the renewal of earlier marketing agreements with Deluxe Data Systems Inc. to sell their Connex EFTPOS product (and the recently launched Asset product for credit/debit card management) throughout Europe.

In the UK, SD-Scicon offers IBM mainframe system operation services, a range of EDI software products and message and date switches (based on X.400 standards). These are sold across many markets. The Processing and Network services business unit contains a software development and consultancy group focussed on the banking, finance and insurance markets. Projects are largely IBM mainframe based.

In France, the SD-Scicon group has an equally diverse range of product and service offerings covering many markets. In GFI this includes systems operation on IBM mainframe, Bull and Tandem hardware, file transfer products, EDI and Telematics. It also has production specifically targeted at the insurance market and is developing some niche kernel software for the banking market in association with a few clients. CdFI is largely an IBM mainframe service bureau and systems operations company. However, it has some accounting packages which have sold well in the French market as well as ESQUIF, a product for managing Social Security top up payments to sick people with insurance cover from French Mutual Assurance Companies.

In the UK, SD-Scicon's Banking and Finance activities have undergone major retrenchment since `Big Bang'. At one time there was a `Banking & Finance' Department but this was disbanded in 1988 with some redundancies and re-allocation of staff to other businesses. The remnants of this Department are now largely associated with the Computing and Network Services group, which provides its services across many vertical markets.

There seems to be no company wide strategy for the Banking & Finance market. Systems operation services and communications products are sold opportunistically or to long standing clients (e.g. Credit Suisse). The small consultancy and software development group has some on-going project work and is seeking new niches to exploit. Its Taurus Link product is one such example.

There are no indications of attempts to co-ordinate UK and French developments in the Banking & Finance market.

SD had several largely unsuccessful years trying to sell Connex. In 1988 it was decided to raise the profile of the activity and create a European wide sales effort. SD-Scicon therefore established Connex Europe to spearhead this. This has been much more successful with several large sales in the UK and one in Italy, and with the market showing good potential.


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Other products are sold from a products group profit centre which has no specific market focus.

In France, GFI continues to take a 'services' approach to selling through its large systems operation capability. Products often arise from applications developed for particular customers. Vertical market penetration therefore tends to be opportunistic in the first instance. GFI's approach is consistent with that taken by many other companies on the French market. GFI has been consistently (but not excessively) profitable over recent years.

Products for the insurance market are the most fully developed set. However, there is currently a lot of interest in the securities and banking sectors and developments are in hand in the following areas.

**Bourses**

- A variety of communications products allowing dealers etc. to access the RELIT system. Some have been available since mid-1990.

**Banks**

- A system for managing foreign currency loans to industry for major projects and sales activities the system will be called Crystal.

- New bank accounting systems, ready for the change in reporting requirements in 1993.

- There are plans to develop Asset and Liability management systems.

All banking systems will be on IBM mainframe using DB2 and CICS.

**Key Products for the Finance market**

The main application products are:

**Connex**

- A leading EFTPOS product running on IBM mainframe and Tandem hardware. Developed by Deluxe Data Systems Inc. of the USA in 1971, it is sold under license by SD-Scicon throughout Europe. SD-Scicon has over 4 years experience of the product.

Connex provides a full range of EFTPOS functions, linking ATMs and POS terminals into a central EFT system and is particularly suited to clients with high volumes of transactions. Connex also provides a settlement facility.

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**Connex Asset**

- This is a recently launched credit/debit card management system also from Deluxe Data Systems. SD-Scicon has taken on the system but does not yet seem to have made any sales. The product runs on the same hardware platforms as Connex.

**Taurus Link**

- This is a new PC-based system developed in Oracle for companies dealing in UK equities and requiring access to the new London Stock Exchange settlement system (Taurus). The intention is that Taurus Link avoids users needing to re-develop their existing settlement systems by providing a link between them, their client database and the Taurus data network.

**GEFIARD, GEFIRENTS**

- These are kernel products for the management of life and non-life insurance business. Developed with Norwich Union in Paris as an application project, the kernel products were launched at the end of 1987. Each new scale requires significant development and customisation.

**ESQUIF**

- This is a uniquely French product developed by CdFI. It is targeted at the Mutual Assurance companies who provide top-up insurance to supplement French Social Security payments when an individual is ill. CdFI claims to have 15% of the French market with 25-30 installation. There seem to be few competitor products.

Network products include:

**TED/TOM**

- For file transfer between IBM mainframes. Developed by GFI and sold under licence by Data Delivery and Management Systems Inc. of the U.S.A.

**PC X.400, IMX.400**

- PC and VAX based systems conforming to the X.400 standard for data interchange. These products, developed by Scicon in the UK during the late 1980s, enable FAX, Telex, EDI, and E-Mail to be sent and received from one system.

**EDI: Interbridge**

- Sold under licence from SITPRO, Interbridge provides a message formatting facility to recognised EDI standards. It runs on a wide range of hardware platforms including PCs.


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**EDI: Workstation**

- An SD-Scicon development providing a user interface to multiple EDI networks, document formatting and translation of received documents for use by other user systems. It is VAX based.

**Comutex**

- A GFI developed Telematics product based on Tandem and IBM mainframes. It can handle both Minitel and IBM protocol terminals. The product operates within custom application software.

All products are sold for a one-time licence fee with optional annual maintenance fees thereafter. Comutex is at the heart of GFI's Telematics service, and so earns a significant level of associated network fees income.

The pricing for some of GFI's Banking kernel software is very 'flexible' and is determined by the need to win the development contract. GFI does not plan to make a profit on the software in its own right. Instead, it is used as a sales aid.


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**E**
**Sema Group plc**

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## SEMA GROUP plc
### Banking and Finance Activity Profile

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### The Company

This was formed in June 1988 when the CAP group in the UK acquired all the shares of the SEMA Group SA of France in an exchange of shares (plus cash). The subsequent poor performance of the UK operations resulted in French management taking full control of the company and the company name changing from SEMA CAP to SEMA Group plc.

The company provides a wide range of software products and services to most industrial, commercial and government markets. It is well established in France and the UK, with significant operations in Spain and Germany and a presence in several other European countries.

The finance market is its largest revenue-earning sector on a company wide basis, representing 22% of group turnover in 1990.

### The UK Finance Division

This division represents some 15-20% (˜ 22m) of UK turnover, and is growing again following the post `Big Bang' collapse in the securities market and a slowdown in banking generally. During 1989 and 1990, SEMA slimmed down its finance division significantly, reallocating staff or shedding them altogether.

SEMA offers a limited range of products in the UK, mainly for dealing room systems, card management and treasury operations. BIS and EDS compete strongly for the bank back office systems market, and SEMA does not believe there is a viable market for them in the UK.

Consultancy is a growing strength for SEMA. In 1990, a new consultancy group was formed to bring together skills dispersed around the company in various operational units. The finance market is a target for this group.

Bespoke software development remains a significant source of revenue and SEMA has entered into various development and customisation projects for clients or partners. For example, SEMA has a co-operative deal with Reuters on RMS, their Taurus dealing room system, which will be sold as a Reuters product.

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SEMA sees no major threat to its UK finance activities except in the unlikely event that a company such as EDS were to buy market domination.

For the future, SEMA plans to grow the finance activity. It sees the market looking for proven products and possibly for outsourcing of a wide range of services. Both these trends are the result of banks fighting to contain costs and improve efficiency.

To address the products market, SEMA is looking for partners to share development risks (these could be clients as well as other vendors) or for ready made systems to acquire or sell as agent.

Systems Operations (SO) is run as a separate business within SEMA and it is felt that there are growing opportunities for SO in the financial market. Developing market awareness is seen as key to the business strategy which suggests that SEMA is not content with its present market visibility.

## Key UK Products

### CARDPAC

CARDPAC is a plastic card management system. It is used by the issuers of cards to manage accounts and SEMA claims that the system handles 3/4 of retailer issued cards in the UK. Clients include large retail chains with their own store cards as well as banks. The product was originally developed by Credit Card Systems Inc. (CCSI) of the USA. SEMA acquired an exclusive European licence and then adapted the product for European and Far Eastern markets. It runs on AS/400, Tandem and IBM mainframes, and is targeted at the medium sized card issuer (50,000 plus cards in issue) rather than the majors such as Barclaycard.

Priced at 100-120k, the product usually undergoes customisation for the client. Contracts are typically 60% product licence, 40% customisation fees.

CARDPAC has been on the market for 4-5 years and is sold through a salesforce numbering 4-5. There are no plans to migrate the product to Unix or other hardware platforms, but there are development plans for a successor product.

### Ibos

IBOS is a small product selling for about 25k targeted at the treasury function of wholesale banking. It is PC based and uses the Novell networking system. The base licence covers 4 workstations and is pro-rated for larger configurations. The product is usable as it is. Larger clients sometimes make extensive developments costing up to 5 times the product value.

There have been 8 UK sales and 2 overseas, one of which was via a Greek distributor.

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**HSDS**

HSDS (High Speed Dealing System) is a software kernel developed by SEMA for use in dealing room systems. A major client is National Westminster Bank which has a 240 workstation money market system. HSDS is based on Stratus and PS/2 computers.

The product is used in large bespoke system development where the product licence fee might represent only 10% of the total contract price.

Originating in 1980, only 5 sales have been made to date, although there are signs that the market for the product is reviving again.

**CIS, CIFER**

SEMA is the agent for these products but has only just introduced them into the UK. Originating in the USA, the products run on IBM mainframes and enable clients to `clean up' customer data files (ie. detect duplicated entries and multiple variants of a single client/address).


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# F
# Winter Partners Holding AG

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**WINTER PARTNERS HOLDING AG**
Florastrasse 44
8008 Zurich
Switzerland
Tel: 41 1 386 95 11
Fax: 41 1 386 95 00

Chairman: Dr. Jurg B. Winter
CEO: W. Heller
Status: Private
Number of Employees: 212
Revenue (FYE 30-09-90): SFR 37 million

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## The Company

Winter Partners was founded in 1970 by Dr. G.R. Kutter and Dr. J.B. Winter. The core business is the development and implementation of global standard software packages for the financial services industry. The products are fully modular, cover a large number of financial instruments and can be configured to suit the business requirements of the individual bank, securities house or brokerage for many regulatory environments as well as for global institutions.

The company is organised in three product divisions:

- CIB and BANCOS
- IBS and RIBS
- Third Party Products.

In 1989, Elektrowatt AG increased the minority holding it purchased in 1987 to a majority by acquiring the shares of the family of co-founder Dr. G.R. Kutter. The resulting ownership structure gives Electrowatt AG the majority and Dr. J.B. Winter the minority.

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Since 1986, Winter Partners has established a network of subsidiaries located in the larger financial centres such as Zurich, Geneva, Frankfurt, London, New York,Singapore and Hong Kong. The company is represented through agents in Kuwait, Malaysia, Indonesia and Taiwan.

**Exhibit A**

SUBSIDIARIES AS OF 01.01.1991

| SUBSIDIARY | COUNTRY | %OWNED |
|---|---|---|
| Winter Partners AG | Switzerland | 100 |
| System Integration AG | Switzerland | 100 |
| Winter Partners GmbH | Germany | 100 |
| Winter Partners Ltd | U.K. | 100 |
| Winter Partners Inc. | U.S.A. | 100 |
| Winter Partners Pte. | Singapore | 100 |
| Winter Partners (HK) Ltd | Hong Kong | 100 |

Each subsidiary is responsible for its own sales, customer services i.e. account management, project management, consulting, training, system integration and product services i.e. software installation, customisation and local development.

In January 1991, Winter Partners employed 212 staff.

**Exhibit B**

OTHER EXECUTIVES

| NAME | POSITION |
|---|---|
| A. Hobi | Group controller and Treasurer |
| E. Wintsch | BANCOS/CIB Division Manager |
| K. Williams | IBS Division Manager |
| A. Kurschner | RIBS Operation Manager |
| Dr. H.U. Schaub | CIB Operation Manager |


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The objectives that Winter Partners has set itself in the 1990's are:

- To offer high quality and efficient standard banking packages, to continue developing their functionality, to keep abreast with technology through long-term cooperation with their clients and their equipment suppliers.

- To offer high quality services in the area of support, consulting, and systems integration to the financial service industry, whether in relation to its standard packages or independently.

- To operate very profitably, as a prerequisite for further expansion, staff motivation, development, continuity, quality, and innovation.

## Key Products and Services

Winter Partners is organised in three divisions:

- CIB and BANCOS
- IBS
- RIBS.

### BANCOS

BANCOS is a banking package covering all aspects of retail, wholesale and private banking running on A-series machines of Unisys. Besides general accounting and asset management features, BANCOS supports retail banking applications such as automated teller machine transactions, lending and client accounting. Its structures are well suited to medium-sized investment and wholesale banks, full-service private banks, and investment departments of insurance companies and other institutional investors.

The development of a style of the art management module, new functionalities in the areas of capital markets, settlements, payment systems and interfaces to trading and client accounting systems are in development.

BANCOS is a joint venture between Winter Partners AG and UNISYS (Switzerland) AG. Over 30 institutions mainly in Switzerland are currently using BANCOS.

### CIB

CIB (Computer Integrated Banking) is Winter Partners' strategic project. It aims at providing large financial institutions with a fully electronic development and maintenance environment for banking applications.

The first set of deliverables (workbench, library, interpreter, generic generator for CSP (IBM) is planned for the 2nd half of 1991.

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**IBS**

IBS provides automation of all the usual international banking activities. These include foreign exchange, loans and deposits, commercial lending, retail and securities. The system offers a full multi-currency, multi-branch general ledger, and management information to track and control liquidity, interest rate sensitivity, and client exposure.

IBS is in daily use in over 100 financial institutions in Central and Eastern Europe, the Far East and the U.S.A.

IBS runs on the entire VAX range of computers from Digital Equipment Corporation and has the support of DEC through a global cooperative marketing agreement. Winter Partners offers IBS with the required hardware and system software, as OEM.

**RIBS**

RIBS is a modular and integrated suite of programs covering all areas of banking, general finance and accounting, securities, foreign exchange, money market trading and settlement, and multi-currency investment management.

Each of the over 20 RIBS installations is a customised solution. Site specific table and parameter settings permit the software to handle multi-currency dealing, processing and reporting in four languages simultaneously.

RIBS runs on the entire VAX range of computers from Digital Equipment Corporation. Winter Partners markets it together with the required hardware and system software, as OEM.

**Third Party Products**

**Profitmaster** is a decision support package for interest rate risk analysis and financial management.

**Pathmaster** is a data integration tool for asset and liability decision support systems.

Other services offered by Winter Partners include:

- Consulting services with special focus on asset and liability management
- Systems integration services


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## Market Analysis

### Exhibit C

**1990 MARKET ANALYSIS BY GEOGRAPHIC AREA (SFR MILLIONS)**

| COUNTRY | REVENUE | PERCENT |
|---|---|---|
| Switzerland | 10.4 | 28 |
| Germany | 5.6 | 15 |
| U.K. | 12.9 | 35 |
| U.S.A. | 3.7 | 10 |
| Far East | 4.4 | 12 |
| **TOTAL** | **37.0** | **100** |

### Exhibit D

**1990 MARKET ANALYSIS BY INDUSTRY SECTOR (SFR MILLIONS)**

| INDUSTRY SECTOR | REVENUE | PERCENT |
|---|---|---|
| Banking/Finance | 36.7 | 99 |
| Insurance | 0.3 | 1 |
| **TOTAL** | **37.0** | **100** |

### Exhibit E

**1990 MARKET ANALYSIS BY INPUT DELIVERY MODE (SFR MILLIONS)**

| INPUT DELIVERY MODE | REVENUE | PERCENT |
|---|---|---|
| Application Software Products | 8.5 | 23 |
| Professional Services | 3.0 | 8 |
| Systems Integration | 0.5 | 1.4 |
| Customer Services | 19.0 | 51.4 |
| Hardware | 6.0 | 16.2 |
| **TOTAL** | **37.0** | **100** |


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## Financial Information

### Exhibit F

FIVE YEAR FINANCIAL SUMMARY (FYE 30-09) (SFR MILLIONS)

| YEAR | 1986 | 1987 | 1988 | 1989 | 1990 |
|---|---|---|---|---|---|
| Revenue | 18 | 32 | 44 | 35* | 37 |
| Annual Growth (%) | - | 78% | 38% | -20% | 6% |
| Profit before Taxes | NA | NA | NA | 0.05 | 0.05 |

* Only nine months due to change of fiscal year.


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# Appendices

# A Forecast Reconciliation, 1990-1991.

Exhibit A-1 shows the changes made in this year's forecast in comparison to that of the previous year.

The changes made in the market assessment for the Banking and Finance sector in 1991 reflect a more optimistic overall view of actual market growth in 1990 and changes in exchange rate asuumptions, the latter accouting for 8% of the difference. Additionally the Systems Operations sector has been broken out from the Processing Services sector, in which it was included at the time of our previous report.

**Exhibit A-1**

**Banking and Finance Sector**
**Reconciliation of Market Forecast, Western Europe**

| Sub Sector | 1990 Market | | | 1995 Market | | | 1990 - 1995 CAGR Forecast in 1990 (Percent) | 1991 - 1996 CAGR Forecast in 1991 (Percent) |
|---|---|---|---|---|---|---|---|---|
| | 1990 STUDY $ Millions | 1991 STUDY $ Millions | Variance (Percent) | 1990 STUDY $ Millions | 1991 STUDY $ Millions | Variance (Percent) | | |
| Processing Services | 3,000 | 3,450 | +15 | 4,900 | 6,260 | +28 | 10 | 11 |
| Turnkey Systems | 960 | 1,000 | +4 | 2,100 | 2,180 | +4 | 17 | 17 |
| Applications Software Products | 500 | 1,030 | +16 | 2,000 | 3,120 | +56 | 17 | 25 |
| Systems Operations | - | 80 | - | - | 300 | - | - | 25 |
| Systems Integration | 370 | 445 | +20 | 1,000 | 1,050 | +5 | 22 | 19 |
| Professional Services | 3,450 | 3,950 | +14 | 8,900 | 7,150 | -20 | 21 | 14 |
| Network Services | 1,630 | 1,800 | +10 | 4,900 | 3,490 | -29 | 25 | 16 |
| **TOTAL** | **10,300** | **11,755** | **+14** | **23,820** | **23,550** | **-1** | **19** | **15** |


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# B Definition of Terms

## A
## Overall Definitions and Analytical Framework

**Information Services** - Computer/telecommunications-related products and services that are oriented toward the development or use of information systems. Information services typically involve one or more of the following:

- Processing of specific applications using vendor-provided systems (called **Processing Services**)
- A combination of hardware, packaged software and associated support services which will meet a specific application processing need (called **Turnkey Systems**)
- Packaged software (called **Software Products**)
- People services that support users in developing and operating their own information systems (called **Professional Services**)
- Bundled combinations of products and services where the vendor assumes responsibility for the development of a custom solution to an information system problem (called **Systems Integration**)
- Services that provide operation and management of all or a significant part of a user's information systems functions under a long-term contract (called **Systems Operations**)
- Services associated with the delivery of information in electronic form-typically network-oriented services such as value-added networks, electronic mail and document interchange, on-line data bases, on-line news and data feeds, videotex, etc. (called **Network Services**)

In general, the market for information services does not involve providing equipment to users. The exception is where the equipment is bundled as part of an overall service offering such as a turnkey system, a systems operations contract, or a systems integration project.

The information services market also excludes pure data transport services (i.e., data or voice communications circuits). However, where information transport is associated with a network-based service (e.g., EDI or VAN services), or cannot be feasibly separated from other bundled services (e.g., some systems operations contracts), the transport costs are included as part of the services market.

The analytical framework of the **Information Services Industry** consists of the following interacting factors: overall and industry-specific business environment (trends, events

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and issues); technology environment; user information system requirements; size and structure of information services markets; vendors and their products, services and revenues; distribution channels, and competitive issues.

All **Information Services Market** forecasts are estimates of **User Expenditures** for information services. When questions arise about the proper place to count these expenditures, **INPUT** addresses them from the user's viewpoint: expenditures are categorized according to what users perceive they are buying.

By focusing on user expenditures, **INPUT** avoids two problems which are related to the distribution channels for various categories of services:

- Double counting, which can occur by estimating total vendor revenues when there is significant reselling within the industry (e.g., software sales to turnkey vendors for re-packaging and resale to end users)

- Missed counting, which can occur when sales to end users go through indirect channels such as mail order retailers

**Market Sectors** or markets, are groupings or categories of the users who purchase information services. There are three types of user markets:

- *Vertical Industry* markets, such as Banking, Transportation, Utilities, etc.

- *Functional Application* markets, such as Human Resources, Accounting, etc. These are also called "Cross-Industry" markets.

- *Generic* markets, which are neither industry- nor application-specific, such as the market for systems software.

Specific market sectors used by **INPUT** are defined in Section D, below.

**Captive Information Services User Expenditures** are expenditures for products and services provided by a vendor that is part of the same parent corporation as the user. These expenditures are not included in **INPUT** forecasts.

**Non-captive Information Services User Expenditures** are expenditures that go to vendors which have a different parent corporation than the user. It is these expenditures which constitute the information services market.

**Delivery Modes** are defined as specific products and services that satisfy a given user need. While *Market Sectors* specify *who* the buyer is, *Delivery Modes* specify *what* the user is buying.

Of the eight delivery modes defined by **INPUT**, five are considered primary products or services:


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- *Processing Services*
- *Network Services*
- *Professional Services*
- *Applications Software Products*
- *Systems Software Products*

The remaining three delivery modes represent combinations of these products and services, bundled together with equipment, management and/or other services:

- *Turnkey Systems*
- *Systems Operations*
- *Systems Integration*

Section B describes the delivery modes and their structure in more detail.

**Outsourcing** is defined as the contracting of information systems (IS) functions to outside vendors. Outsourcing should be viewed as the opposite of *insourcing*: anything that IS management has considered feasible to do internally (e.g., data centre operations, applications development and maintenance, network management, training, etc.) is a potential candidate for outsourcing.

IS has always bought systems software, as it is unfeasible for companies to develop it internally. However, all other delivery modes represent functions or products that IS management could choose to perform or develop in-house. Viewed this way, outsourcing is the result of a make-or-buy decision, and the outsourcing market covers any product or service where the vendor must compete against the client firm's own internal resources.

## B
## Industry Structure and Delivery Modes

### 1. Service Categories

The following Exhibit III-1 presents the structure of the information services industry. Several of the delivery modes can be grouped into higher-level **Service Categories**, based on the kind of problem the user needs to solve. These categories are:

- **Business Application Solutions (BAS)** - prepackaged or standard solutions to common business applications. These applications can be either industry-specific (e.g., mortgage loan processing for a bank), cross-industry (e.g., payroll processing), or generic (e.g., utility timesharing). In general, BAS services involve minimal customisation by the vendor, and allow the user to handle a specific business application without having to develop or acquire a custom system or system resources. The following delivery modes are included under BAS (research on these sectors is published in the Market Analysis Programme):

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- *Processing Services*
- *Applications Software Products*
- *Turnkey Systems*

· **Systems Management Services (SMS)** - services which assist users in developing systems or operating/managing the information systems function. Two key elements of SMS are the customisation of the service to each individual user and/or project, and the potential for the vendor to assume significant responsibility for management of at least a portion of the user's information systems function. The following delivery modes are included under SMS (research on these sectors is published in the Systems Management Programme):

- *Systems Operations*
- *Systems Integration*

Each of the remaining three delivery modes represents a separate service category:

· *Professional Services*
· *Network Services*
· *System Software Products*

Research on Professional Services and Systems Software Products is published in the Market Analysis Programme, research on network services in the Network Services Programme.


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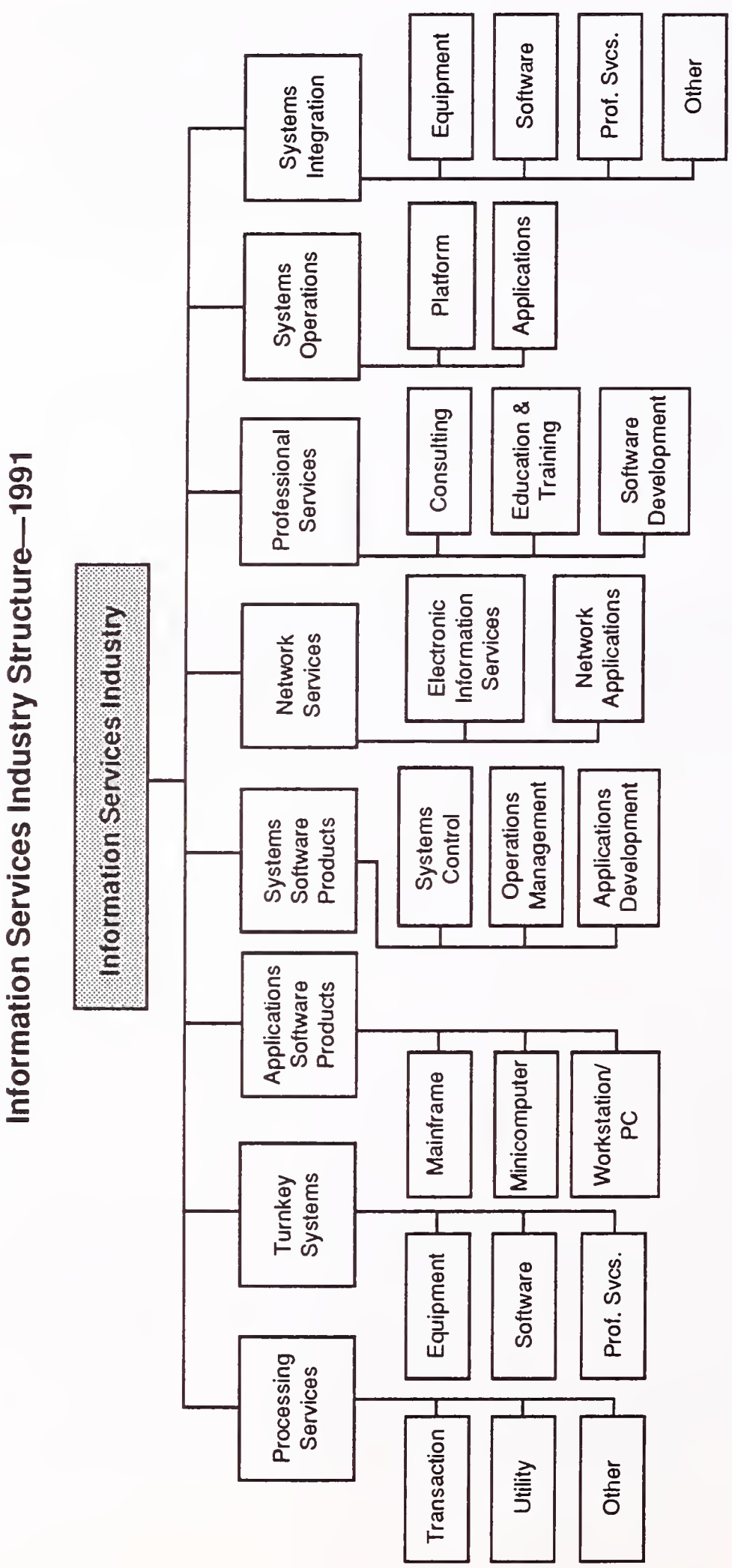
## Exhibit B-1




*Source:* INPUT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## 2. Software Products

There are many similarities between the applications and systems software delivery modes. Both involve user purchases of software packages for in-house computer systems. Included are both lease and purchase expenditures, as well as expenditures for work performed by the vendor to implement or maintain the package at the user's sites. Vendor-provided training or support in operation and use of the package, if bundled in the software pricing, is also included here.

Expenditures for work performed by organizations other than the package vendor are counted in the category of professional services. Fees for work related to education, consulting, and/or custom modification of software products are counted as professional services, provided such fees are charged separately from the price of the software product itself.

### · Systems Software Products

Systems software products enable the computer/communications system to perform basic machine-oriented or user interface functions. These products include:

- *Systems Control Products* - Software programs that function during application program execution to manage computer system resources and control the execution of the application program. These products include operating systems, emulators, network control, library control, windowing, access control, and spoolers.

- *Operations Management Tools* - Software programs used by operations personnel to manage the computer system and/or network resources and personnel more effectively. Included are performance measurement, job accounting, computer operation scheduling, disk management utilities, and capacity management.

- *Applications Development Tools* - Software programs used to prepare applications for execution by assisting in designing, programming, testing, and related functions. Included are traditional programming languages, 4GLs, data dictionaries, data base management systems, report writers, project control systems, CASE systems and other development productivity aids. Also included are system utilities (e.g., sorts) which are directly invoked by an applications program.

### · Application Software Products

- *Industry-Specific Application Software Products* - Software products that perform functions related to solving business or organizational needs unique to a specific vertical market and sold to that market only. Examples include demand deposit accounting, MRPII, medical record-keeping, automobile dealer parts inventory, etc.

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- *Cross-Industry Application Software Products* - Software products that perform a specific function that is applicable to a wide range of industry sectors. Applications include payroll and human resource systems, accounting systems, word processing and graphics systems, spreadsheets, etc.

### 3. Turnkey Systems

A turnkey system is an integration of equipment (CPU, peripherals, etc.), systems software, and packaged or custom application software into a single system developed to meet a specific set of user requirements. Value added by the turnkey system vendor is primarily in the software and support services provided. Most CAD/CAM systems and many small business systems are turnkey systems. Turnkey systems utilize standard computers and do not include specialized hardware such as word processors, cash registers, process control systems, or embedded computer systems for military applications.

Hardware vendors that combine software with their own general-purpose hardware are not classified by **INPUT** as turnkey vendors. Their software revenues are included the appropriate software category.

Most turnkey systems are sold through channels known as value-added resellers.

- *Value-Added Reseller (VAR):* A VAR adds value to computer hardware and/or software and then resells it to an end user. The major value added is usually application software for a vertical or cross-industry market, but also includes many of the other components of a turnkey systems solution, such as professional services.

Turnkey systems are divided into two categories.

- *Industry-Specific Systems* - systems that serve a specific function for a given industry sector, such as automobile dealer parts inventory, medical record-keeping, or discrete manufacturing control systems.

- *Cross-Industry Systems* - systems that provide a specific function that is applicable to a wide range of industry sectors, such as financial planning systems, payroll systems, or personnel management systems.

### 4. Processing Services

This category includes transaction processing, utility processing, and other processing services.

- *Transaction Processing:* - Client uses vendor-provided information systems-including hardware, software and/or data networks-at vendor site or customer site, to process transactions and update client data bases. Transactions may be entered in one of four modes:

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- *Interactive* - Characterized by the interaction of the user with the system for data entry, transaction processing, problem solving and report preparation: the user is on-line to the programs/files stored on the vendor's system.

- *Remote Batch* - Where the user transmits batches of transaction data to the vendor's system, allowing the vendor to schedule job execution according to overall client priorities and resource requirements.

- *Distributed Services* - Where users maintain portions of an application data base and enter or process some transaction data at their own site, while also being connected through communications networks to the vendor's central systems for processing other parts of the application.

- *Carry-in Batch* - Where users physically deliver work to a processing services vendor.

· *Utility Processing*: Vendor provides basic software tools (language compilers, assemblers, DBMSs, graphics packages, mathematical models, scientific library routines, etc.), generic applications programs and or data bases, enabling clients to develop their own programs or process data on vendor's system.

· *Other Processing Services*: Vendor provides services-usually at vendor site-such as scanning and other data entry services, laser printing, computer output microfilm (COM), CD preparation and other data output services, backup and disaster recovery, etc.

## 5. Systems Operations

Systems operations involves the operation and management of all or a significant part of the user's information systems functions under a long-term contract. These services can be provided in either of two distinct submodes:

· *Processing Services:* The vendor provides personnel, equipment and (optionally) facilities. Prior to 1990, this was a submode of the Processing Services delivery mode.

· *Professional Services:* The vendor provides personnel to operate client-supplied equipment. Prior to 1990, this was a submode of the Professional Services delivery mode.

Systems operations vendors now provide a wide variety of services in support of existing information systems. The vendor can plan, control, provide, operate, maintain and manage any or all components of the user's information systems (equipment, networks, systems and/or application software), either at the client's site or the vendor's site. Systems operations can also be referred to as "resource management" or "facilities management."

There are two general levels of systems operations:

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- *Platform/network operations* - where the vendor operates the computer system and/or network without taking responsibility for the applications

- *Application operations* - where the vendor takes responsibility for the complete system, including equipment, associated telecommunications networks, and applications software

Note: Systems Operations is a relatively new delivery mode introduced in the 1990 Systems Management Programme - Europe. It was created by taking the Systems Operations submode out of both Processing Services and Professional Services. No other change has been made to the delivery mode definitions, and the total forecast expenditures for these three delivery modes are identical to the total forecast expenditures of the two original modes before the breakout of Systems Operations.

## 6. Systems Integration (SI)

Systems Integration is a business offering that provides a complete solution to an information system, networking or automation requirement through the custom selection and implementation of a variety of information system products and services. A systems integrator is responsible for the overall management of a systems integration contract and is the single point of contact and responsibility to the buyer for the delivery of the specified system function, on schedule and at the contracted price.

To be included in the information services market, systems integration projects must involve some application processing component. In addition, the majority of cost must be associated with information systems products and/or services. The SI sector is fully analysed and reported in **INPUT**'s Systems Management Programme.

The systems integrator will perform, or manage others who perform, most or all of the following functions:

- Program management, including subcontractor management
- Needs analysis
- Specification development
- Conceptual and detailed systems design and architecture
- System component selection, modification, integration and customisation
- Custom software design and development
- Custom hardware design and development
- Systems implementation, including testing, conversion and post-implementation evaluation and tuning
- Life cycle support, including
  - System documentation and user training
  - Systems operations during development
  - Systems maintenance
- Financing

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## 7. Professional Services

This category includes consulting, education and training, and software development.

- *Consulting:* Services include management consulting (related to information systems), information systems consulting, feasibility analysis and cost-effectiveness studies, and project management assistance. Services may be related to any aspect of information systems, including equipment, software, networks and systems operations.

- *Education and Training:* Products and services related to information systems and services for the professional and end user, including computer-aided instruction, computer-based education, and vendor instruction of user personnel in operations, design, programming, and documentation.

- *Software Development:* Services include user requirements definition, systems design, contract programming, documentation and implementation of software performed on a custom basis. Conversion and maintenance services are also included.

## 8. Network Services

Network services typically include a wide variety of network-based functions and operations. Their common thread is that most of these functions could not be performed without network involvement. Network services is divided into two major segments: *Electronic Information Services,* which involve selling information to the user, and *Network Applications,* which involve providing some form of enhanced transport service in support of a user's information processing needs.

- *Electronic Information Services*

Electronic information services are data bases that provide specific information via terminal- or computer-based inquiry, including items such as stock prices, legal precedents, economic indicators, periodical literature, medical diagnosis, airline schedules, automobile valuations, etc. The terminals used may be computers themselves, such as communications servers or personal computers. Users typically inquire into and extract information from the data bases. Although users may load extracted data into their own computer systems, the electronic information vendor provides no data processing or manipulation capability and the users cannot update the vendor's data bases.

The two kinds of electronic information services are:

- *On-line Data Bases* - Structured, primarily numerical data on economic and demographic trends, financial instruments, companies, products, materials, etc.

- *News Services* - Unstructured, primarily textual information on people, companies, events, etc.

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While electronic information services have traditionally been delivered via networks, there is a growing trend toward the use of CD ROM optical disks to support or supplant on-line services, and these optical disk-based systems are included in the definition of this delivery mode.

· *Network Applications*

- *Value-Added Network Services (VAN Services)* - VAN services are enhanced transport services which involve adding such functions as automatic error detection and correction, protocol conversion, and store-and-forward message switching to the provision of basic network circuits.

  While VAN services were originally provided only by specialized VAN carriers (Tymnet, Telenet, etc.), today these services are also offered by traditional common carriers (AT&T, Sprint, etc.). Meanwhile, the VAN carriers have also branched into the traditional common carriers' markets and are offering unenhanced basic network circuits as well.

  **INPUT**'s market definition covers VAN services only, but includes the VAN revenues of all types of carriers.

- *Electronic Data Interchange (EDI)* - Application-to-application exchange of standardized business documents between trade partners or facilitators. This exchange is commonly performed using VAN services. Specialized translation software is typically employed to convert data from organizations' internal file formats to EDI interchange standards; this software may be provided as part of the VAN service, or may be resident on the organization's own computers.

- *Electronic Information Exchange (EIE)* - Also known as Electronic Mail (E-Mail), EIE involves the transmission of messages across an electronic network managed by a services vendor, including facsimile transmission (FAX), voice mail, voice messaging, and access to Telex, TWX, and other messaging services. This also includes bulletin board services.

- *Other Network Services* - This segment contains videotex and pure network management services.

  Videotex is actually more a delivery mode than an application. Its prime focus is on the individual as a consumer or in business. These services provide interactive access to data bases and offer the inquirer the capability to send as well as receive information for such purposes as home shopping, home banking, travel reservations, and more.

  Network management services included here must involve the vendor's network and network management systems as well as people. People-only services, or services that involve the management of networks as part of the broader task of managing a user's information processing functions are included in Systems Operations.

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Network Services research is fully reported in **INPUT**'s Network Services Programme.

## C
## Vendor Revenue and User Expenditure Conversion

The size of the information services market may be viewed from two perspectives: vendor (producer) revenues, and user expenditures. While the primary data for **INPUT**'s research is vendor interviews, **INPUT** defines and forecasts the information services market in terms of end-user expenditures. End-user expenditures reflect the markup in producer sales when a product such as software is delivered through indirect distribution channels, such as original equipment manufacturers (OEMs), retailers and distributors. The focus on end-user expenditure also eliminates the double counting of revenues which would occur if sales were tabulated for both producer (e.g., Lotus) and distributor (e.g., BusinessLand).

For most delivery modes, vendor revenues and user expenditures are fairly close. However, there are some significant areas of difference. Many microcomputer software products, for example, are marketed through indirect distribution channels. To capture the valued added through these indirect distribution channels, adjustment factors which incorporate industry discount ratios are used to convert estimated information services vendor revenues to end-user expenditures.

For some delivery modes, including software products, systems integration and turnkey systems, there is a significant volume of intra-industry sales. For example, systems integrators purchase software and subcontract the services of other professional services vendors. Turnkey vendors incorporate purchased software into the systems which they sell to end users.

## D
## Sector Definitions and Delivery Mode Reporting

### 1. Industry Sector Definitions (Vertical Markets)

**INPUT** has structured the information services market into 16 generic industry sectors, five of these sectors are the subject of specific **INPUT** research studies within the Software and Services Market Analysis Programme. These five sectors are discrete and process manufacturing, distribution, banking and finance and insurance. The definitions of these sectors are based on the 1987 revision of the Standard Industrial Classification (SIC) Code system. The specific industries (and their SIC Codes) included under these generic industry sectors are detailed in the following tables.


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| Sector: | Discrete Manufacturing |
|---|---|
| SIC Code | Market sub-sector description |
| 23XX | Apparel and other finished products |
| 25XX | Furniture and fixtures |
| 27XX | Printing, publishing and allied industries |
| 31XX | Leather goods |
| 34XX | Fabricated metal products except machines |
| 35XX | Industrial and commercial machines and computer |
| 36XX | Electronic and electrical equipment except computer |
| 37XX | Transportation equipment |
| 38XX | Instruments; photo/med/opt goods; watches/clocks |
| 39XX | Miscellaneous |

| Sector: | Process Manufacturing |
|---|---|
| 10XX | Metal mining |
| 12XX | Coal mining |
| 13XX | Oil and gas extraction |
| 14XX | Mining non-metalic minerals |
| 20XX | Food products |
| 21XX | Tobacco products |
| 22XX | Textile mill products |
| 24XX | Lumber and wood products except furniture |
| 26XX | Paper and allied products |
| 28XX | Chemicals and allied products |
| 29XX | Petroleum refined and related industries |
| 30XX | Rubber and miscellaneous plastic products |
| 32XX | Stone, clay, glass and concrete products |
| 33XX | Primary metal industries |


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| Sector: | Distribution |
|---|---|
| SIC Code | Market sub-sector description |
| 50XX | Wholesale trade - durable goods |
| 51XX | Wholesale trade - non-durable goods |
| 52XX | Retail - building materials |
| 53XX | Retail - general merchandise stores |
| 54XX | Retail - food stores |
| 55XX | Retail - automotive dealers, gas stations |
| 56XX | Retail - apparel and accessory stores |
| 57XX | Retail - home furniture, furnishings and accessories |
| 58XX | Retail - eating and drinking places |
| 59XX | Retail - miscellaneous |

| Sector: | Banking and Finance |
|---|---|
| 60XX | Depository institutions |
| 61XX | Non-depository institutions |
| 62XX | Security and commodity brokers, dealers and exchanges |
| 67XX | Holding and other investment offices |

| Sector: | Insurance |
|---|---|
| 63XX | Insurance carriers |
| 64XX | Insurance agents,brokers and services |

| SIC Code | Other Sectors |
|---|---|
| | Miscellaneous Industries: |
| 01XX | Agricultural production - crops |
| 02XX | Agricultural production - livestock |
| 07XX | Agricultural services |
| 08XX | Forestry |
| 09XX | Fishing, hunting and trapping |
| 15XX | Building construction - general contractors |
| 16XX | Heavy construction - contractors |
| 17XX | Construction - special trade contractors |


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| | |
|---|---|
| | Transportation Services: |
| 40XX | Rail transport |
| 41XX | Public transit/transport |
| 42XX | Motor freight transport/warehousing |
| 43XX | Postal services |
| 44XX | Water transportation |
| 45XX | Air transportation except airline reservation |
| 46XX | Pipelines except natural gas |
| 47XX | Transportation services except travel agents |
| | Utilities: |
| 49XX | Electric, gas and sanitary services |
| 48XX | Telecommunications |
| 80XX | Health services |
| 82XX | Educational services |
| | Business and Technical Services: |
| 65XX | Real estate |
| 73XX | Business services |
| 81XX | Legal services |
| 87XX | Engineering, accounting, research, management services |
| 89XX | Miscellaneous services |

| | |
|---|---|
| 9XXX | Government |
| | Personal/Consumer Services: |
| 4512X | Airline reservation services |
| 472X | Travel agents |
| 70XX | Hotels, rooming houses, camps and lodgings |
| 72XX | Personal services |
| 7389X | Hotel reservation services |
| 75XX | Automotive repair services and parking |
| 76XX | Miscellaneous repair services |
| 78XX | Motion pictures |
| 79XX | Amusement and recreation services |
| 83XX | Social services |
| 84XX | Museums, art galleries and botanical gardens |
| 86XX | Membership organisations |
| 88XX | Private households |

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## 2. Cross-Industry Sector Definitions (Horizontal Markets)

In addition to these vertical industry sectors, **INPUT** has also identified seven cross-industry or horizontal market sectors. These sectors or markets involve multi-industry applications such as human resource systems, accounting systems, etc. In order to be included in an industry sector, the service or product delivered must be specific to that sector only. If a service or product is used in more than one industry sector, it is counted as cross-industry. The seven cross-industry markets are:

- *Human Resource Systems*
- *Education and Training*
- *Office Systems*
- *Accounting Systems*
- *Engineering and Scientific Applications*
- *Planning and Analysis Systems*
- *Other Applications (including telemarketing, sales management and electronic publishing)*


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## C Economic Assumptions

There follow some notes on the methodology **INPUT** use in making forecasts and judging of how reasonable they are.

**INPUT** reports are based principally on three strands of research activity conducted throughout the year:

- A vendor research programme with more than 300 interviews with prominent software and services vendors across Europe. This research assesses their attributable revenues in each country by delivery made and, where possible by industry sector. **INPUT** consultants use their own judgement in many cases to categorise revenues into sub-sectors. In particular **INPUT** excludes revenues considered captive, such as those from a vendor's parent company.

- Several hundred vendor and user interviews across all European market sectors to determine trends and opinions. These interviews are part of the research that **INPUT** carries out in specific sectors of the software and services market. In 1990 for example **INPUT** produced reports on over 20 different software and services market sectors.

- Additionally **INPUT** maintains an extensive library and data-base of information relating to the software and services industry. This covers for example **INPUT**'s customer services programme data: results of **INPUT**'s research into the hardware maintenance market which includes its diversification into the software and services market.

All the forecasts from these activities are produced in local currency for each country, then consolidated with common economic and exchange rate data to produce a top level forecast. This is done for software and services in each country and in Europe as a whole. At each stage it is examined for reasonableness and consistency and if necessary revisited. For example we satisfactorily tested the question: Will predicted user budgets for information systems support the predicted high growth rates in software and services?

The forecasts also benefit from assignments for and feedback from **INPUT** clients, who include over 100 of the leading vendors of software and services around the world. For example: **INPUT** supplied an economic model to a market leading client on the potential effect of rising oil prices on forecast software and services growth rates. In summary this showed that falling real growth was largely counterbalanced by increases in inflation, resulting in continued high dollar growth forecasts for the market.

In order to consolidate **INPUT**'s forecasts and vendor data into a consistent set of European analyses each year, it is essential to use a standard set of economic factors. The following pages show the inflation and exchange rates currently in use.

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# A
# European Exchange Rates

The following table, Exhibit C-1, shows the standard exchange rates used throughout the 1991 programme to consolidate country market data for overall Western European forecasts and vendor market shares.

**Exhibit C-1**

**US Dollar and ECU Exchange Rates**
**1991**

| Country | Currency | US Dollar Exchange Rate | ECU Exchange Rate |
|---|---|---|---|
| France | FF | 5.65 | 7.74 |
| Germany | DM | 1.68 | 2.30 |
| United Kingdom | £ | 0.515 | 0.704 |
| Italy | Lira | 1,233.0 | 1,689.0 |
| Sweden | Sek | 5.61 | 7.69 |
| Denmark | DK | 6.39 | 8.75 |
| Norway | NK | 6.49 | 8.89 |
| Finland | FM | 3.96 | 5.43 |
| Netherlands | Dfl | 1.69 | 2.32 |
| Belgium | BF | 34.60 | 47.40 |
| Switzerland | SF | 1.27 | 1.74 |
| Austria | Sch | 11.80 | 16.17 |
| Spain | Ptas | 95.0 | 130.12 |
| | $ | 1 | 1.37 |

Source: Barclays Bank (Q4 1990)


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Exhibit C-2 shows the standard exchange rates used throughout the 1990 programme to consolidate country market data for overall Western European forecasts and vendor market shares.

**Exhibit C-2**

**US Dollar and ECU Exchange Rates**
**1990**

| Country | Currency | US Dollar Exchange Rate | ECU Exchange Rate |
|---|---|---|---|
| France | FF | 6.17 | 6.87 |
| Germany | DM | 1.81 | 2.05 |
| United Kingdom | £ | 0.631 | 0.74 |
| Italy | Lira | 1,336 | 1,502 |
| Sweden | Sek | 6.39 | 7.41 |
| Denmark | DK | 7.05 | 7.8 |
| Norway | NK | 6.85 | 7.94 |
| Finland | FM | 4.21 | 4.84 |
| Netherlands | Dfl | 2.05 | 2.3 |
| Belgium | BF | 38.06 | 42.29 |
| Switzerland | SF | 1.61 | 1.8 |
| Austria | Sch | 12.77 | 14.39 |
| Spain | Ptas | 115.8 | 129.7 |
| | $ | 1 | 1.20 |

Sources: Exchange rates - Barclays Bank (1989)


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## B
## European Inflation Rates

Exhibit C-3 shows the average five-year inflation assumptions for each reported country and the changes from those used in reports produced in the previous year. All **INPUT** forecasts include the effects of inflation as well as natural market growth rates. For consistency, the same inflation rates are used throughout all the different market sector research and analysis during a calendar year, unless specified otherwise.

**Exhibit C-3**

**Inflation Assumptions 1990 and 1991**

| Country | Assumption 1990-1995 | Assumption 1991-1996 | Change |
|---|---|---|---|
| France | 4.5 | 3.0 | -1.5 |
| Germany | 4 | 2.7 | -1.3 |
| United Kingdom | 7 | 4.8 | -2.2 |
| Italy | 7 | 4.4 | -2.6 |
| Sweden | 7 | 6.3 | -0.7 |
| Denmark | 5 | 2.7 | -2.3 |
| Norway | 5 | 4.9 | -0.1 |
| Finland | 6 | 5.0 | -1.0 |
| Netherlands | 3 | 2.4 | -0.6 |
| Belgium | 4 | 3.3 | -0.7 |
| Switzerland | 5 | 3.3 | -1.7 |
| Austria | 4 | 2.6 | -1.3 |
| Spain | 6.5 | 4.7 | -1.8 |
| Rest of Europe | 10 | 7.7 | -2.5 |
| European Average | 5.5 | 4.0 | -1.5 |

Sources: OECD 1991 Forecast
IMF 1989


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Exhibit C-4 shows the inflation assumptions for both the 1989 and 1990 research programmes.

**Exhibit C-4**

**Inflation Assumptions 1989 and 1990**

| Country | Assumption 1989-1994 | Assumption 1990-1995 | Change |
|---|---|---|---|
| France | 4 | 4.5 | +0.5 |
| Germany | 2.5 | 4 | +1.5 |
| United Kingdom | 5.5 | 7 | +1.5 |
| Italy | 6 | 7 | +1.0 |
| Sweden | 6 | 7 | +1.0 |
| Denmark | 6 | 5 | -1.0 |
| Norway | 4 | 5 | +1.0 |
| Finland | 6 | 6 | 0.0 |
| Netherlands | 2 | 3 | +1.0 |
| Belgium | 3.5 | 4 | +0.5 |
| Switzerland | 2.5 | 5 | +2.5 |
| Austria | 3 | 4 | +1.0 |
| Spain | 5.5 | 6.5 | +1.0 |
| Rest of Europe | 8 | 10 | +2.0 |
| European Average | 4.5 | 5.5 | +1.0 |

Source: IMF 1989


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# Report Quality Evaluation

To our clients:
To ensure that the highest standards of report quality are maintained, INPUT would appreciate your assessment of this report. Please take a moment to provide your evaluation of the usefulness and quality of this study. When complete, simply fold, staple, and drop in the post.

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1. Report title: ***Banking and Finance Sector*** (MEIB1)

2. Please indicate your reason for reading this report:
   - ☐ Required reading
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   - ☐ Area of general interest
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   - ☐ Business/market planning
   - ☐ Product planning
   - ☐ Future purchase decision
   - ☐ Systems planning
   - ☐ Other _____

3. Please indicate extent report used and overall usefulness:

| | Extent | | Usefulness (1=Low, 5=High) | | | | |
|---|---|---|---|---|---|---|---|
| | Read | Skimmed | 1 | 2 | 3 | 4 | 5 |
| Executive Overview | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Complete report | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| Part of report (_____ %) | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

4. How useful were:

| | | | | | |
|---|---|---|---|---|---|
| Data presented | ☐ | ☐ | ☐ | ☐ | ☐ |
| Analyses | ☐ | ☐ | ☐ | ☐ | ☐ |
| Recommendations | ☐ | ☐ | ☐ | ☐ | ☐ |

5. How useful was the report in these areas:

| | | | | | |
|---|---|---|---|---|---|
| Alert you to new opportunities or approaches | ☐ | ☐ | ☐ | ☐ | ☐ |
| Cover new areas not covered elsewhere | ☐ | ☐ | ☐ | ☐ | ☐ |
| Confirm existing ideas | ☐ | ☐ | ☐ | ☐ | ☐ |
| Meet expectations | ☐ | ☐ | ☐ | ☐ | ☐ |
| Other _____ | ☐ | ☐ | ☐ | ☐ | ☐ |

6. Which topics in the report were the most useful? Why?_____

_____

7. In what ways could the report have been improved? _____

_____

8. Other comments or suggestions: _____

_____

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